LAKE COUNTY BOARD OF HEALTH ORDINANCE

ARTICLE V

REGULATION OF INDIVIDUAL SEWAGE DISPOSAL SYSTEMS AND REGISTRATION AND/OR LICENSING OF INDIVIDUAL SEWAGE DISPOSAL SYSTEM PROFESSIONALS

LAKE COUNTY BOARD OF HEALTH ORDINANCE

ARTICLE V - INDIVIDUAL SEWAGE DISPOSAL SYSTEMS

TABLE OF CONTENTS

CHAPTER 1 - ADMINISTRATION

Section 101.....General 1
Section 102.....Applicability 1
Section 103.....Validity 1
Section 104.....Duties and Powers of the Health Officer 1
Section 105.....Existing Systems 1

CHAPTER 2 - DEFINITIONS 2

CHAPTER 3 - GENERAL REQUIREMENTS

Section 301..... General 3
Section 302..... Restrictions 3

CHAPTER 4 - INSANITARY CONDITIONS 4

CHAPTER 5 - APPROVAL PROCEDURES

Section 501.....General 4
Section 502.....New Construction 4
Section 503.....Repairs 4
Section 504.....Alterations or Additions 5
Section 505.....Non-Conforming Systems 5
Section 506.....Proposed Subdivision 5
Section 507.....Variances 6
Section 508.....Hearings 6
Section 509.....Administration 6

CHAPTER 6 - SITE SUITABILITY

Section 601.....General 6
Section 602.....Soil Descriptions 7
Section 603.....Minimum Soil Conditions 7
Section 604.....Soil Evaluations of Record 7
Section 605.....Conflict 7
Section 606.....Administration 7

CHAPTER 7 - INDIVIDUAL SEWAGE DISPOSAL SYSTEM DESIGN

Section 701.....General 7
Section 702.....Minimum Requirements 8
Section 703.....Design Specifications 8
Section 704.....Low Pressure Distribution 11
Section 705.....Non-Conforming Systems 11

CHAPTER 8 - CONTINGENCY SYSTEMS

Section 801.....General 11
Section 802.....Soil Limitations 12
Section 803.....Design Limitations 12
Section 804.....Special Use Systems 12
Section 805.....Temporary Holding Tanks 13
Section 806.....Administration 13

CHAPTER 9 - PLANS

Section 901.....General 13
Section 902.....Plan Specifications 13
Section 903.....Plan Specifications for System Components, Repairs, Replacements or Additions 14
Section 904.....Supplemental Information 14
Section 905.....Proposed Subdivisions 14

CHAPTER 10 - CONSTRUCTION REQUIREMENTS

Section 1001.....General 15
Section 1002.....Permit & License Requirements 15
Section 1003.....Site Preparation 16
Section 1004.....Fill 16
Section 1005.....Excavation 16
Section 1006.....Gravel 16
Section 1007.....Piping 17
Section 1008.....Backfilling 17
Section 1009.....Accessories 17
Section 1010.....Compliance 17
Section 1011.....Administration 18

CHAPTER 11 - MATERIALS

Section 1101.....General 18
Section 1102.....Pretreatment Components 18
Section 1103.....Lift Stations 18
Section 1104.....Distribution Devices 19
Section 1105.....Valves 19
Section 1106.....Piping 19
Section 1107.....Fill - Aggregate 19
Section 1108.....Backfill/Topsoil 19
Section 1109.....Items Not Specified 19

CHAPTER 12 - LICENSING

Section 1201.....General 19
Section 1202.....Soil Classifiers 19
Section 1203.....Individual Sewage Disposal System Designers 20
Section 1204.....Individual Sewage Disposal System Contractors 20
Section 1205.....Individual Sewage Disposal System Pumpers 20

CHAPTER 13 - WASTE HAULERS AND SEPTAGE DISPOSAL
Section 1301.....General 20
Section 1302.....Land Application Site Approval 20
Section 1303.....Site Management 21
Section 1304.....Equipment 21
Section 1305.....Inspections 21
Section 1306.....Reporting 21
Section 1307.....Other Requirements 22
Section 1308.....Administration 22

CHAPTER 14 - MAINTENANCE
Section 1401.....General 22
Section 1402.....Aerobic Unit 22
Section 1403.....Surface Discharge 22
Section 1404.....Holding Tanks 22
Section 1405.....Contingency Systems 22
Section 1406.....Nonconforming/Experimental Systems 22
Section 1407.....Disclosure 23
Section 1408.....Reporting 23
Section 1409.....Procedures 23

CHAPTER 15 - ENFORCEMENT
Section 1501.....General 23
Section 1502.....Notice of Violation 23
Section 1503.....Emergencies 23
Section 1504.....Revocation of Approval 24
Section 1505.....Hearings and Right to Appeal 24
Section 1506.....Application After Revocation 24
Section 1507.....Suspension of Licenses 24

CHAPTER 16 - PROCEDURES & FEES
Section 1601.....General 24
Section 1602.....Individual Sewage Disposal Systems 24
Section 1603.....Alterations and Additions 25
Section 1604.....New Subdivisions 25
Section 1605.....Soil Evaluations 25
Section 1606.....Variances 26
Section 1607.....Hearings 26
Section 1608.....Construction Permit 26
Section 1609.....Other 26

CHAPTER 17 - RELIEF FROM PERSONAL RESPONSIBILITY
Section 1701.....Personal Liability 26

CHAPTER 18 - INTERPRETATION AND CONFLICT
Section 1801.....General 27
Section 1802.....State and Local Requirements 27
Section 1803.....Effective Date 27

APPENDIX A - INCORPORATED MATERIALS

APPENDIX B - SOIL SUITABILITY AND LOADING RATES

APPENDIX C - SYSTEM SIZING STANDARDS

APPENDIX D - OFFSET DISTANCES

APPENDIX E - ILLUSTRATIONS

CHAPTER 1 - ADMINISTRATION
SECTION ISD - 101.0 GENERAL

ISD-101.1 Title: This ordinance shall be known as the Individual Sewage Disposal System Ordinance of the County of LAKE, hereinafter referred to as "this Ordinance".

ISD-101.2 Scope: Individual sewage disposal systems are permitted where no sanitary sewer is available to the property to be served. Unless specifically approved, the individual sewage disposal system of each building shall be entirely separate from and independent of that of any other building.

ISD-101.3 Intent: This ordinance is enacted in order to secure the proper design and installation of systems for the treatment and disposal of sewage; to insure minimum standards for sewage discharges, the location, installation, alteration, operation, maintenance, and monitoring of all individual sewage disposal systems so as to protect land, water, groundwater and other natural resources within the County of LAKE from impairment, pollution, or destruction; to minimize the risk of spreading communicable diseases, and to prevent and avoid other health and ecologic hazards attributable to bacteria, viruses, protozoa and the helminths, as well as, chemical contamination of lands and waters.

SECTION ISD-102.0 APPLICABILITY

ISD-102.1 General: The provisions of these regulations shall cover all matters affecting or relating to individual sewage disposal as set forth in this Ordinance.

ISD-102.2 Matters Not Provided For: Any private sewage disposal requirement essential for the sanitary safety of an existing or proposed building or structure or essential for the health or safety of the occupants thereof, and which is not specifically covered by this code, shall be determined by the Health Officer.

ISD-102.3 Continued Use: The continuation of use of a private sewage disposal system, or part thereof, contrary to the provisions of this code shall be deemed a violation, and subject to the penalties prescribed in Chapter 15.

ISD-102.4 Referenced Standards: The standards referenced in this code and listed in Appendix A shall be considered part of the requirements of this code to the prescribed extent of each reference. Where differences occur between provisions of this code and referenced standards, the provisions of this code shall apply except as specified in Chapter 18.

SECTION ISD-103.0 VALIDITY

ISD-103.1 Partial: In the event any part or provision of this code is held to be illegal or void, such finding shall not have the effect of making void or illegal any of the other parts or provisions thereof, which are determined to be legal, and it shall be presumed that this code would have been approved without such illegal or invalid parts or provisions.

ISD-103.2 Segregation: Any invalid part of this code shall be segregated from the remainder of the code by the court holding each part invalid, and the remainder shall remain effective.

SECTION ISD-104.0 DUTIES & POWERS OF THE HEALTH OFFICER

ISD-104.1 General: The Health Officer shall enforce all of the provisions of this Ordinance and shall act on any question relative to the mode or manner of the design or construction and the materials to be used in the installation of individual sewage disposal systems, except as otherwise specifically provided for by statutory requirements, and shall specifically act as follows:

ISD-104.2 Applications and Permits: The Health Officer shall receive applications and issue permits for the installation of private sewage disposal systems, inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

ISD-104.3 Notices and Orders: The Health Officer shall issue all necessary notices or orders to remove illegal or unsafe conditions, to require the necessary safeguards during construction, and to insure compliance with all Ordinance requirements. Any written order posted on premises involved shall not be removed except by order of the Health Officer. Removal without such order shall constitute a violation of this Ordinance to ensure the health, safety and general welfare of the public. The Health Officer may revoke, by writing, any permit or approval issued contrary to this Ordinance or based upon a false statement or misrepresentation in the application.

ISD-104.4 Authority To Enter Premises: The Health Officer, after identification, shall have the authority to enter any property at any reasonable time to inspect any for health and sanitation purposes, and for compliance with the provisions of this Ordinance. The Health Officer may also make any necessary test, including dye tests or obtaining effluent samples for laboratory analysis, on any property to determine compliance with the provisions of this Ordinance. The Health Officer is authorized to engage such expert opinion as deemed necessary to report upon unusual technical issues that arise.

ISD-104.5 Licenses: The Health Officer shall issue licenses, after a determination of competence pursuant to the provisions of Chapter 12, to any person engaged in the evaluation of the soils or in the design, construction, or maintenance of individual sewage disposal systems with the County of LAKE, and may suspend or revoke any license for cause.

ISD-104.6 Credentials: The Health Officer and authorized representatives shall carry proper credentials of their respective office for the purpose of inspecting any and all systems in the performance of duties under this Ordinance.

ISD-104.7 Official Records: The Health Officer shall keep official records of applications received, permits and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records so long as the building or structure to which they relate remains in existence unless otherwise provided for.

SECTION ISD-105.0 EXISTING SYSTEMS

ISD-105.1 Continued System Use: The legal use and occupancy of any structure serviced by an individual sewage disposal system, which had been heretofore approved, shall be permitted to be continued

without change, except as specifically addressed in this Ordinance.

ISD-105.2 System Maintenance: All individual sewage disposal systems, both existing and new, shall be maintained in a safe and sanitary condition. All service equipment, devices and safeguards which are required by this Ordinance, or which were required by previous statute, shall be maintained in working order as when installed or repaired.

ISD-105.2.1 Maintenance Responsibility: The owner or the owner's designated agent shall be responsible for the safe and sanitary maintenance of the individual sewage disposal system for any building or structure at all times.

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CHAPTER 2 - DEFINITIONS

ISD-201.0 GENERAL

ISD-201.1 Scope: Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings indicated in this chapter.

ISD-201.2 Terms Not Defined: Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

ISD-202.0 GENERAL DEFINITIONS

Bedroom: Any room of 100 square feet or larger, containing a closet, which is suitable to regular use as a bedroom and which shares a common hallway with or is adjoining at least a 3/4 bath.

Class I aerobic unit: A mechanical wastewater treatment unit which is **listed** by NSF International as Class I.

Coarse sand: Fill material having an effective diameter of .15 to .30 mm with a coefficient of uniformity <5.0, and having less than 20% material coarser than 2 mm and less than 5% silt and clay.

Construction Permit: A non-transferable permit issued to a licensed individual sewage disposal system contractor to construct an individual sewage disposal system to the specifications of the plan approved for the system.

Discharge rate: The volume of wastewater discharged from a low pressure distribution system expressed as gallons per minute, and applied as a rate either per perforation, per line, or per system.

Distal end pressure: A measure of system pressure in a low pressure distribution system made at the end of a lateral distribution pipe opposite the force main connection, and expressed as feet of pressure head.

Diverter valve: A valve with a single inflow which may be adjusted to direct outflow into any one of two or more directions.

Domestic Sewage: Wastewater typical of a residential flow, containing human wastes, moderate concentrations of soaps and detergents, minimum concentrations of grease and toxics such as normal household cleaning agents.

Effluent filter: A device installed at the outflow of a septic tank which screens and collects solids ordinarily suspended in solution.

Expansion Area: An area designated for the replacement or enlargement of a soil based individual disposal system.

Floodplain: The elevation of base flood elevation expressed as U.S. Geological Survey (mean sea level) National Geodetic vertical datum, which establishes the 100 year flood limit, and adjacent lands of equal or lower elevation.

Flow control device: A device specially designed to equalize the outflow elevation of effluent from a distribution box, typically a rotating pipe cap provided with an off center outflow orifice which can adjust the flowline by rotation of the cap.

Health officer: The Executive Director of the Lake County Health Department or an appropriate designated agent.

Individual Sewage Disposal System: A sewage treatment and disposal system which infiltrates treated wastewater into soil, which discharges wastewater to the surface where the projected daily flow is less than 1500 gallons, or which holds wastewater in a tank for removal and disposal at a remote site.

Isolation distance: The vertical measurement from a wastewater application point to a limiting layer.

Lift station: A watertight containment intended solely to collect pretreated effluent and containing a submersible effluent pump, external pump switch(es), an audio-visual alarm and additional pump control devices.

Limiting layer: That plane in a soil profile which restricts the placement of a wastewater application point due to conditions including, but not limited to, seasonal high water table or permanent saturated conditions, restrictive permeability (loading rate of 0 gpd/sq.ft.), excessive permeability (gravelly coarse sand or coarser texture), or fractured bedrock.

Loading rate: The maximum rate, based upon a soil's texture, structure, and consistence and expressed as gallons per day per square foot of infiltration area, at which effluent may be applied to a soil absorption system.

Mottling: A redoximorphic feature of some soils which is associated with high water tables, appearing as spotty patches of red, brown, orange and gray colors and having a Munsell color chart chroma equal to or less than 2 and a value equal to or greater than 4.

Non-conforming system: A system intended for an atypical use or application for which special consideration to flow, wastewater strength, or wastewater disposal may result in special requirements which exceed the standards set forth in this ordinance.

Pre-treatment unit: A septic tank or multiple tanks or a Class I aerobic unit, including trash tanks if recommended, properly sized for the projected daily wastewater volume and providing physical,

chemical and biological treatment to raw wastewater prior to its application to a soil infiltration system.

Redoximorphic features: Soil characteristics associated with wetness which result from the reduction and oxidation of iron and manganese compounds in the soil, and are indicative of the extent of soil saturation.

Repair: The replacement of or the addition or modification to an existing individual sewage disposal system, which is continuing to serve the same dwelling or structure, excluding maintenance activities such as pumping the tank, replacement of baffles or filter, replacement of distribution boxes, replacement of electrical or mechanical components such as pumps, switches, motors or controls.

Septage: Liquid and solid material removed from domestic septic tanks or other approved pretreatment systems, and specifically excluding wastes from portable toilets, holding tanks, grease traps and sewage treatment plant sludge material.

Site development plan: A prepared plan which illustrates the finished contouring of a site, including modifications to the site associated with proposed work on the sewage system, to specifications acceptable to the controlling village or municipality or the County of Lake.

Soil resource group: A group of soils specific to this ordinance which share common traits and similar subsoil materials.

System Type: Soil infiltration systems segregated by this ordinance into five types, I through V as illustrated in Appendix E, based upon the extent of physical contact between seepage trench or bed aggregate material and the natural soil.

Topographical survey: A representation of changes in elevation of a property prepared to scale by an Illinois licensed surveyor or engineer, which depicts each 1 foot change in elevation by a contour line, is referenced to a benchmark of known or assumed elevation, and which encompasses a sufficient area to include the proposed structure, the individual sewage disposal system area and any other topographical feature relevant to the wastewater system.

A licensed individual sewage disposal system designer may generate an approved topographical survey provided that a separate plat, which details level rod readings or converted elevations at points on a grid or stadia from which the contour lines were depicted, accompanies the submittal.

Wastewater Application Point: The point lowest in elevation at which wastewater applied to a soil infiltration system will first contact with soil or fill material.

Wetland: Land that is inundated or saturated by surface or shallow ground water at a sufficient frequency and duration to support, under ordinary conditions, a prevalence of vegetation adapted to such conditions (hydrophytic vegetation).

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CHAPTER 3 - GENERAL REQUIREMENTS

SECTION ISD-301.0 GENERAL

ISD-301.1 - Authority: The Health Officer, in order to protect and promote the health, safety, and general welfare of the people of Lake County, Illinois, and other affected communities, is authorized and directed to develop procedures, practices and policies; to interpret and enforce these rules and regulations establishing minimum standards for sewage discharges, the location, installation, alteration, operation, maintenance, and monitoring of all individual sewage disposal systems, so as to protect land, water, groundwater and other natural resources within the County of Lake from impairment, pollution, or destruction; to minimize the risk of spreading communicable diseases, and to prevent and avoid other health and ecologic hazards attributable to bacteria, viruses, protozoa and helminths, as well as, chemical contamination of lands and waters.

ISD-301.2 - Minimum Standards: This Ordinance establishes minimum standards to minimize the risk that Individual Sewage Disposal Systems:

ISD-301.2.1 - Drinking Water Supply: Do not contaminate any drinking water supply.

ISD-301.2.2 - Carriers of Disease: Are not accessible to insects, rodents, or other possible carriers of disease which may come into contact with human food or drinking water.

ISD-301.2.3 - Water Pollution or Contamination: Do not pollute or contaminate the water of any bathing beach or surface waters used for public or domestic water supply or recreational purposes.

ISD-301.2.4 - Nuisance: Do not give rise to a nuisance due to odor or unsightly appearance.

ISD-301.2.5 - Pollution: Will not violate any other laws or regulations governing control of water pollution or sewage disposal.

SECTION ISD-302.0 RESTRICTIONS

ISD-302.1 - Public Sewer Availability: The Health Officer shall refuse to grant a permit for an individual sewage disposal system where a public sewer is available. A sewer shall be deemed available when the improvement to be served is located within a reasonable distance and the connection is permitted by the controlling authority. A reasonable distance shall be 250 feet from a single family residence property or a commercial establishment of less than 1500 gallons per day, and 1000 feet from a commercial establishment over 1500 gallons per day, a multi-family dwelling, or a new subdivision.

ISD-302.2 - Water Conserving Plumbing Fixtures: Any dwelling or establishment proposed to be serviced by an individual sewage disposal system shall utilize water conserving plumbing fixtures, including, but not limited to, low flush volume toilets(1.6 gallons per flush) and flow restricting (2.5 gallons per minute) faucets and showerheads. Whenever whirlpool tubs, spas, etc. with a capacity exceeding 60 gallons are proposed ,the projected daily flow of the wastewater system shall be increased by that capacity.

ISD-302.3 - Property Boundaries: Individual sewage systems shall

not be located outside of the property boundaries of the serviced dwelling or establishment, nor serve more than one dwelling or structure unless approved as a non-conforming system in accordance with ISD-505.0.

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CHAPTER 4 - INSANITARY CONDITIONS

SECTION 401.0 -GENERAL

ISD-401.1 Discharge of Improperly Treated Sewage: Every individual sewage disposal system shall be maintained in proper sanitary condition and repair by the owner. It shall be unlawful for any person to permit or cause the discharge of improperly treated sewage directly or indirectly to any wetland, surface waters, ground surface, well or abandoned well, or to allow the contents of any sewage disposal system or components thereof, to emit offensive odors or become objectionable so as to be dangerous or prejudicial to health.

ISD-401.2 Abatement Order: Upon verification of such unsanitary condition, the Health Officer shall give written notice to the owner and/or legal occupant responsible for such acts or emissions ordering abatement of same. Failure of any person to obey such an abatement order shall also constitute a violation of this Ordinance. Any person receiving an abatement order may request a hearing as outlined in Article VI of the Lake County Board of Health Ordinance.

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CHAPTER 5 - APPROVAL PROCEDURES

SECTION 501.0 -GENERAL

ISD-501.1 Construction and/or Repair: No person shall construct or repair an individual sewage disposal system without the prior approval of the Health Officer. Such approval shall include both the approval of a plan for the proposed construction or repair, and the issuance of a permit to conduct the work required.

ISD-501.2 Subdivision of Property: No property, where individual sewage disposal systems are to be used, shall be subdivided into two or more parts by means of mapping, plotting, conveyance, change or rearrangement of boundaries without prior approval of the Health Officer.

SECTION 502.0 NEW CONSTRUCTION

ISD-502.1 New Construction Approval Conditions: Approval for a new individual sewage disposal system shall be granted when all of the following conditions are met:

ISD-502.1.1 Soil Evaluation Report: A soil evaluation report issued in accordance with Section ISD-603.0 determines the soil to be suitable.

ISD-502.1.2 Plot Plan: A plot plan prepared in accordance with Chapter 9 demonstrates as follows:

ISD-502.1.2.1 System Type: The system type as specified by the soil evaluation is designed in an area of suitable soils for the proposed flow and at the assigned loading rates.

ISD-502.1 2.2 Expansion System: An expansion system is designed in suitable soil and is sized as follows:

A) Equal to the primary system.
B) Equal to 50% of the primary system for Type 4 and 5 systems where the expansion area is directly contiguous to the downslope of the primary system.

ISD-502.1.2.3 Slope: The slope does not exceed 25%.

ISD-502.1.3 Floodplain Elevation: The wastewater application point is at or above the 100-year flood elevation.

ISD-502.1.4 Site Development Plan: A site development plan, specific to alterations to a site related to the construction of the proposed individual sewage disposal system, is approved by the applicable county, village, or municipal agency.

SECTION ISD-503.0 REPAIRS

ISD-503.1 Approval Conditions: Approval for the repair of an individual sewage disposal system shall be granted when the following conditions are met:

ISD-503.1.1 Soil Evaluation Result: A soil evaluation result issued in accordance with Chapter 6 determines the soil to be suitable, excepting that no soil evaluation is required where the proposed repair is only for the replacement or addition of septic tanks, lift stations, pre-treatment units, distribution boxes, solid piping, or other components other than absorption capacity.

-and-

ISD-503.1.2 Plot Plan: A plot plan prepared in accordance with Chapter 9 demonstrates as follows:

ISD-503.1.2.1 Proposed Repair: The proposed repair is for the replacement or addition of components of the pre-treatment or distribution system, and does not include soil absorption capacity,

-or-

ISD-503.1.2.2 System Type: The system type as specified by the soil evaluation report is designed in an area of suitable soil for the proposed flow and at the assigned loading rate.

ISD-503.2 Compliance Impossible: A repair of a failing system may be approved when the system as designed cannot meet the criteria for flow and loading rates as assigned by the soil evaluation report, but the proposal is in substantial compliance with these criteria so as to

reasonably meet the requirements for wastewater disposal, and to be in the best interest of public health. The Health Officer may place restrictions upon the use of the system to reduce flow or minimize the risk of system failure. Such restrictions shall be recorded as a covenant(s) running with the land with the Lake County Recorder of Deeds.

SECTION ISD-504.0 ALTERATIONS OR ADDITIONS

ISD-504.1 Approval Conditions: No dwelling or establishment served by an individual sewage disposal system may be altered, expanded, remodeled, or added to where such change may affect the individual sewage disposal system without prior approval of the Health Officer. Applications for alterations or additions shall be reviewed and approved as follows:

ISD-504.1.1 Water Usage: Proposals for alterations or additions which may increase water usage, including, but not limited to, the addition of bedrooms, full baths, or hot tubs or whirlpools shall meet the provisions of Section ISD-503.1.

ISD-504.1.2 Square Footage: Proposals for alterations or additions which increase the square footage of a dwelling by over 50% shall meet the provisions of Section ISD-503.1.

ISD-504.1.3 Commercial Establishment: <600 Gallons Per Day: Proposals for a change of use for a commercial establishment or institution which projects an increase in wastewater volume, but where the total projected flow is less than 600 gallons per day, shall meet the provisions of Section ISD-503.1.

ISD-504.1.4 Commercial Establishment >600 Gallons Per Day: Proposals for a change of use for a commercial establishment or institution which projects an increase in wastewater volume, and where the projected flow exceeds 600 gallons per day, shall meet the provisions of Section ISD-502.1.

ISD-504.1.5 Required Offsets: Proposals for an alteration or addition to any property shall meet the required offsets to system components and the soil absorption and expansion areas as established by Appendix D. Decks shall be allowed over system components provided that access is provided for maintenance and repair, and that the deck is meeting offset requirements from the soil absorption and expansion areas.

SECTION ISD-505.0 NON-CONFORMING SYSTEMS

ISD-505.1 Approval Conditions: Approval for a proposed wastewater system may require a system design, construction plans, construction procedures, system materials, or other agreements and conditions which exceed the requirements of this Ordinance where the proposed system meets any of the following conditions:

ISD-505.1.1 Projected Wastewater Flow: The projected wastewater flow exceeds one thousand-five hundred gallons per day (1500 gpd).

ISD-505.1.2 Shared Systems: Any part of the proposed wastewater system is shared by two or more owners, including community systems or clustered systems.

ISD-505.1.3 Nonresidential wastewater: The wastewater influent quality may be projected to exceed 300 ppm BOD_5, such as from food service establishments.

ISD-505.1.4 Wastewater Reuse or Recycling: Any portion of the treated wastewater is proposed for reuse or recycling.

ISD-505.2 Prior Proposal Review: The Health Officer shall review any proposal for a nonconforming system prior to its submittal for approval, and shall establish additional requirements, if any, appropriate for the proposed use. Said review shall consider those elements of the proposal which may stress the wastewater system such as waste strength (BOD, solids, greases and oils, etc.), peak flows, seasonal flow variations, soil or site limitations, and elements of the proposal which may require special arrangements for access or maintenance such as shared ownership.

SECTION ISD-506.0 PROPOSED SUBDIVISION

ISD-506.1 Approval Conditions: Where individual sewage disposal systems are to be used for any subdivision or resubdivision of any subdivision, tract, parcel, or lot of land into two or more parts of mapping, platting, conveyance, change or rearrangement of boundaries, the Health Officer shall review each lot to ensure it will have an area suitable for an individual sewage disposal system and the required expansion area. No subdivision shall be approved unless all final lots are considered suitable for an individual sewage disposal system as follows:

ISD-506.1.1 Site Suitability: The suitability of proposed subdivision sites utilizing individual soil absorption sewage disposal systems shall be determined by the results of the soil evaluations that are conducted in accordance with Chapter 6, and by the platting of proposed lots with Chapter 9.

ISD-506.1.2 Natural Resource Protection: The subdivision shall be designed to protect all natural resources such as drainage ways, wetlands, wooded areas, surface waters, and soil conditions. Such information shall be provided by a registered Professional Engineer licensed to practice in the State of Illinois in accordance with Section ISD-905.0.

ISD-506.1.3 Expansion Areas: Every lot served by an individual sewage disposal system shall have an area of suitable soil for sewage disposal sufficient for both a primary system and the required expansion system, relative to soil conditions and system design. A review shall be made of the preliminary plat and the soil borings and lot lines shall be adjusted to eliminate any unsuitable lots.

ISD-506.1.4 Area Protection: All designated individual sewage disposal system areas must be protected from damage during the construction of the roads, utilities, drainage, etc., in the subdivision. Snow fencing, two by fours or equivalent shall be placed so as to protect wastewater disposal areas.

SECTION ISD-507.0 VARIANCES

ISD-507.1 Variance Requests: Whenever approval as required by this Section is denied by the Health Officer, where compliance with the requirements of this Ordinance are impossible or impractical, that person denied approval may request a variance as follows:

ISD-507.1.1 Written Requests: Variance requests shall be in writing and shall detail those conditions where compliance is impossible or impractical.

ISD-507.1.2 Supporting Data: Variance requests shall include pertinent data to support the requested waiver of the requirements of this Ordinance as being consistent with the responsibility of the Health Officer to protect and provide for the health, safety, and general welfare of the people of Lake County and of other affected communities.

ISD-507.1.3 Contingency Provisions: Variance requests shall not be submitted in lieu of the contingency provisions and systems of Chapter 8.

SECTION ISD-508.0 HEARINGS

ISD-508.1 Hearings: Whenever approval as required in this Section is denied by the Health Officer and a subsequent variance request is denied, that person denied approval may make a written request to the Health Officer for a hearing. A hearing in accordance with Article VI of the Lake County Board of Health Ordinances shall be conducted.

SECTION ISD-509.0 ADMINISTRATION

ISD-509.1 Procedures and Fees: Administrative procedures and fees relative to this Section shall be in accordance with Chapter 16.

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CHAPTER 6 - SITE SUITABILITY

SECTION ISD-601.0 SOIL EVALUATION

ISD-601.1 General: All proposed individual sewage disposal soil absorption systems shall be designed based upon soil characteristics as identified by a Lake County Health Department employed Soil Scientist or a Lake County licensed Soil Classifier, and as recorded on a soil evaluation report.

ISD-601.2 Proposed Subdivision: New proposed subdivisions, where individual sewage disposal soil absorption systems are proposed, shall be designed based upon soil characteristics as identified by a Lake County Health Department employed Soil Scientist or a Lake County licensed Soil Classifier.

ISD-601.3 Soil Evaluation: Soil evaluations conducted by the Lake County Health Department shall be conducted by appointment with the employed Soil Scientist. The person requesting the soil evaluation shall provide as follows:

ISD-601.3.1 Proposed Site: The proposed site shall be reasonably cleared of brush, weeds, and tall grass. Note: Do not run equipment on sites which are wet or damp.

ISD-601.3.2 Lot Corners: The lot corners shall be marked on individually platted lots, or permanent reference points established for proposed subdivisions.

ISD-601.3.3 Soil Pits: Soil observation pits shall be excavated to a minimum of twenty-four (24") inches in width, and shall be 60" deep.

ISD-601.3.4 Soil Cores: The Health Officer may accept soil cores as meeting the requirement of this Section and standard practice.

ISD-601.4 Minimum Number of Observation Points: Soil observation points shall be located as is necessary to accurately determine a site's soil characteristics, however, a minimum number as follows:

ISD-601.4.1 Individual Sites: On individual sites, a minimum of four (4) observation points is required with at least one point located in an area lower in elevation than any proposed soil absorption system or expansion area.

ISD-601.4.2 Proposed Subdivisions: For new proposed subdivisions, a minimum of one observation pit at each intersection of a two hundred foot (200') grid is required with intermediate observations at critical soil boundaries so as to allow intensive mapping of soil characteristics applicable to this Ordinance. At least one observation point shall be located on each proposed lot.

SECTION ISD- 602.0 SOIL DESCRIPTIONS

ISD-602.1 General: Soil characteristics shall be described based upon United States Department of Agriculture - Natural Resources Conservation Service (formerly the Soil Conservation Service) National Standards. Descriptions shall include depth in inches to changes in soil texture, soil structure, soil consistence and/or compaction, observed saturation, soil coloration, and depth to redoximorphic features indicative of saturation including, but not limited to, common (2% - 20%) low chroma mottles (equal to or less than two (2) and a value of four (4) or more based upon Munsell color chart). Descriptions shall be recorded to a depth of 60".

ISD-602.2 Additional Determination and Assignments: In addition to the standard soil description in Section ISD-602.1, the Lake County Health Department employed Soil Scientist or Lake County Licensed Soil Classifier shall make determinations and assignments based upon those descriptions as follows:

ISD-602.2.1 Soil Resource Group: Each observation point soil profile shall be classified in accordance with Appendix B to establish a soil resource group, soil series or classification, the depth to a limiting layer, and the corresponding minimum ISD system type. ISD system types relate to the depth to a limiting layer, and establish a required minimum separation distance between the limiting layer and a wastewater application point of 24", reduced to 16" where a Class I aerobic unit is employed.

ISD-602.2.2 Wastewater Loading Rates: Each soil description shall assign maximum wastewater loading rates in accordance with Appendix B, as follows:

a) Soil descriptions shall be segregated by horizon.
b) Each segregated horizon shall be assigned a loading rate between 0 gallons per day per square foot (gpd/sq.ft.) and .8 gpd/sq.ft.

SECTION ISD 603.0 MINIMUM SOIL CONDITIONS

ISD-603.1 Soil Suitability: As a minimum, any soil located in a proposed soil absorption or expansion area must be described as having twelve inches (12") of suitable soil at the surface, meeting all of the following conditions:

ISD-603.1.1 Seasonally Saturated: The soil is not seasonally saturated to within 12" of the surface; classification per Section ISD-602.2.1 and Appendix B specifies an ISD system type.

ISD-603.1.2 Texture, Structure, and Consistence: The texture, structure, and consistence are such that the loading rate, assigned per Section ISD-602.2.2 and Appendix B is greater than zero (0) gpd/sq.ft.

ISD-603.2 Made Land Soils: Soils which are not naturally occurring, having been filled over, cut or otherwise disturbed so as to make their classification impossible or impracticable, may be considered as suitable where the depth to seasonal saturation and the soil texture, soil structure, and soil consistence meet the criteria for suitable soil established in this section. A more extensive soil investigation may be necessary to determine the suitability of made land. The Lake County Health Department employed Soil Scientist or a Lake County Licensed Soil Classifier shall assign an ISD system type and loading rates in accordance with Appendix B.

SECTION ISD-604.0 SOIL EVALUATIONS OF RECORD

ISD-604.1 Acceptable: Soil evaluations conducted prior to the effective date of this Ordinance may be acceptable as meeting the purpose of this Section provided the evaluation was conducted by a Lake County Health Department employed Soil Scientist, and the soil profile description is sufficient to allow a translation of information by a Lake County Health Department employed Soil Scientist to Appendix B for a determination of soil suitability.

SECTION ISD-605.0 CONFLICT

ISD-605.1 Resolution: Whenever there is a substantive disagreement between the Lake County Health Department and any Lake County Licensed Soil Classifier, the Health Officer shall, at the request of either party, solicit the assistance of the Natural Resources Conservation Service Area soil scientist to resolve such disputes. The report of the Natural Resource Conservation Service shall be considered as the soil evaluation of record.

SECTION ISD-606.0 ADMINISTRATION

ISD-606.1 Procedures and Fees: Administrative procedure and fees relative to this Section shall be in accordance with Chapter 16.

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CHAPTER 7 - INDIVIDUAL SEWAGE DISPOSAL SYSTEM DESIGN

SECTION-701.0 - GENERAL

ISD-701.1 Purpose: Individual sewage disposal systems proposed for approval shall meet the requirements of this Section. The purpose of this section is as follows:

ISD-701.1.1 Minimum Vertical Separation Distance: To ensure that proposed individual sewage disposal systems employ an ISD System Type most appropriate for the site's soil characteristics in order to maintain a minimum vertical separation distance between a limiting layer and a wastewater application point.

ISD-701.1.2 Long Term Wastewater Treatment and Disposal: To ensure that each ISD system type is designed to best facilitate the long term treatment and disposal of wastewater employing the most appropriate loading rates and application methods.

ISD-701.1.3 System Capacity: To ensure that ISD systems are of an adequate capacity to treat and dispose of the projected wastewater volume.

ISD-702.0 MINIMUM REQUIREMENTS

ISD-702.1 Design: Any individual sewage disposal system and its required expansion area proposed for approval shall be designed to meet minimum requirements as follows:

ISD-702.1.1 Suitable Soil: Any soil absorption system and its required expansion area shall be located in suitable soil in accordance with Section ISD-603.0.

ISD-702.1.2 System Type: Any soil absorption system and its required expansion shall be of an ISD system type as specified by Section ISD-602.0 and Appendix B, and the design for that ISD system type shall conform to the requirements of this Section and any applicable elements of materials incorporated by Appendix A.

ISD-702.1.3 Site Contour: Any soil absorption system and its required expansion area shall be designed to be parallel to the site contour. Soil absorption systems shall not be situated on slopes which are concave to the extent that horizontal subsurface movement of wastewater may concentrate that flow in a small downslope area.

ISD-702.1.4 Design Sizing: All components of an individual sewage disposal system and the soil absorption area shall be properly sized for the wastewater flow projected by Appendix C in accordance with all other applicable requirements of this Section.

ISD-702.1.5 Horizontal Separation Distances: Individual sewage disposal systems shall be separated from water wells and water supply lines, surface waters, topographical features, artificial drains, property lines and easements, and

construction elements by a distance adequate to protect the system from any damage or interference with the treatment and disposal process, and to ensure that untreated wastewater does not contaminate drinking waters, surface waters, or the ground surface, in accordance with Appendix D.

ISD-702.1.6 Prohibited Wastes: Individual sewage disposal systems shall be designed to receive only domestic sewage. No discharges from footing drains, water softeners, air conditioning, or other clear water source , nor greases, oils, solvents or other waste except domestic sewage shall be discharged into an individual sewage disposal system.

ISD-702.1.7 Construction and Materials: Individual sewage disposal systems shall be designed to allow their construction in accordance with Chapter 10 of this Ordinance and shall specify approved materials in accordance with Chapter 11.

SECTION ISD-703.0 DESIGN SPECIFICATIONS

ISD-703.1 Design Requirements: Individual sewage disposal system types shall be designed in accordance with the requirements of this Section, and with the design requirements further specified in the incorporated materials of Appendix A for the specific system type where not otherwise specified.

ISD-703.2 ISD System Types: ISD system types shall be particularly designed as follows:

ISD-703.2.1 Type 1 and Type 2 Absorption Trench Systems: Type 1 and 2 absorption trench systems shall be designed to minimum requirements as follows:

A) Pretreatment shall be by septic tank sized for the projected design flow per Appendix C..

B) Distribution to the absorption trench may be by dropbox, serial distribution, or by equal flow distribution box. Piping and distribution device size and material shall comply with Chapter 11.

C) Lift stations, if required, shall be sized according to Appendix C.

D) Distribution into the absorption trench shall be by perforated pipe.

E) No perforation shall be located closer than three feet (3') to the proximal end of the absorption trench.

F) The invert of the distribution pipe shall be a minimum of six inches (6") above the trench bottom.

G) The square footage of trench bottom area shall be equal to the projected flow in gallons per day (gpd) divided by the assigned wastewater loading rate in gallons per day per square foot.

H) The maximum trench length shall be one hundred feet (100') from the distribution device. All trenches connected to an equal flow distribution box shall be of equal length.

I) The maximum trench width shall be thirty-six inches (36"); the minimum trench width shall be twelve inches (12").

J) Trenches shall be separated by a minimum of four feet (4') of undisturbed soil.

K) The maximum trench depth for a Type 1 system shall be eighteen inches (18") into the original soil or otherwise deeper as approved provided that the required vertical isolation distance is maintained.

L) The maximum trench depth for a Type 2 system shall be twelve inches (12") into the original soil.

M) The minimum depth of gravel in the absorption trench shall be 12 inches (12") , with six inches of gravel beneath the distribution pipe and two inches above.. Gravel shall not be placed closer than twenty-four inches (24") to the distribution device.

N) Every Type 2 system shall be covered with a minimum of six inches (6") of topsoil or otherwise as is necessary to support vegetative cover with a maximum cover of eighteen inches (18").

O) Where distribution to and into a Type 1 or 2 system is by low pressure pipe, the applicable requirements of Section ISD-703.2.2 and Section ISD-704.0 shall apply.

P) Seepage beds, if proposed, shall be sized at 1.5 times the trench absorption area.

Q) Leaching chambers, if proposed, shall be sized according to the square footage of the trench bottom relative to the width of the chamber.

ISD-703.2.2 Type 3 Absorption Trench Systems: shall be designed to minimum requirements as follows:

A) Pretreatment shall be by Class I aerobic unit sized for the projected flow per Appendix C..

B) The soil absorption area shall be plowed and filled in accordance with Section ISD-1003.0 and Section ISD-1004.0. The fill material shall extend a minimum of ten feet (10') beyond any absorption trench. The depth of fill material shall be a minimum of ten inches (10").

C) Distribution to and into the absorption trench shall be by low pressure pipe (LPP). LPP network piping shall be as specified in this section and in Section ISD-704.0.

D) The lift station shall be sized according to Appendix

C.

E) No perforation shall be located closer than five feet (5') to the proximal end of the absorption trench.

F) The invert of the distribution line shall be a minimum of six inches (6") above the trench bottom.

G) The square footage of trench bottom area shall be equal to the projected daily flow in gallons per day divided by the assigned wastewater loading rate in gallons per day per square foot.

H) The maximum trench length shall be seventy feet (70') from the manifold connection.

I) The maximum trench width shall be twenty-four inches (24"); the minimum trench width shall be twelve inches (12").

J) Trenches shall be separated by a minimum of four feet (4') of undisturbed soil.

K) The maximum trench depth of a type 3 system shall penetrate the original soil six inches (6"). A type 3 system may be constructed with the trench bottom at original grade.

L) The minimum depth of gravel in the absorption trench shall be ten inches (10"), with six inches of gravel beneath the pipe and two inches above..

M) Gravel shall not be placed closer than twenty-four inches (24") to the manifold trench.

N) Every Type 3 system shall be covered with a minimum of six inches (6") of topsoil or otherwise as is necessary to support vegetative cover with a maximum limit to cover depth of eighteen inches (18").

O) Leeching chambers shall be sized according to the square footage of the trench bottom relative to the width of the chamber.

ISD-703.2.3 Type 4 At-Grade Absorption Systems: Type 4 At-Grade Absorption Systems shall be designed to minimum requirements as follows:

A) Pretreatment shall be by septic tank sized for the projected flow per Appendix C and augmented by an approved effluent filter, or by a Class I aerobic unit sized for the projected flow per Appendix C.

B) The soil absorption area shall be plowed in accordance with Section ISD-1004.0.

C) Distribution to and into the absorption area shall be by low pressure pipe (LPP). LPP network piping shall be as specified in this section and in Section ISD-704.0.

D) The lift station shall be sized according to Appendix C..

E) The invert of the distribution lines shall be a minimum of six inches (6") above original grade.

F) The square footage of absorption area shall be equal to the projected daily flow in gallons per day divided by the assigned wastewater loading rate in gallons per day per square foot.

G) The minimum length of the at-grade wastewater absorption area parallel to the site contour shall be limited by the maximum linear loading rate. The linear loading rate is equal to the projected daily flow in gallons per day divided by the total length of the absorption area in feet, and shall be limited as follows:

1) Type 4 systems on soils in resource groups A, B or C shall be designed with a maximum linear loading rate of twelve (12) gallons per day per foot.

2) Type 4 systems on soils in resource groups D or E shall be designed with a maximum linear loading rate of six (6) gallons per day per foot.

H) The minimum depth of gravel in the at-grade absorption area shall be ten inches (10"), with six inches of gravel beneath the pipe and two inches above..

I) The gravel of an at-grade soil absorption system shall be covered with a minimum of twelve inches (12") of topsoil to support vegetative cover. Additional cover shall be placed as is necessary to shed stormwater.

J) The gravel shall be completely covered with an appropriate geotextile prior to the placement of topsoil.

K) Type 4 At Grade Systems shall comply with the provisions of Wisconsin At-Grade Soil Absorption System Siting, Design, and Construction Manual as incorporated in Appendix A.

ISD-703.2.4 Type 5 Mound Systems: Type 5 Mound Systems shall be designed to minimum requirements as follows:

A) Pretreatment shall be by septic tank sized for the projected flow per Appendix C and augmented by an approved effluent filter, or by a Class I Aerobic Unit sized for the projected flow per Appendix C.

B) The soil infiltration area shall be plowed and filled in accordance with Section ISD-1003.0 and Section ISD-1004.0. The fill material shall cover the soil

infiltration area, or basal area.

C) Distribution to and into the application bed shall be by low pressure pipe (LPP). LPP network piping shall be as specified in this section and in Section ISD-704.0.

D) The lift station shall be sized according to Appendix C.

E) The invert of the distribution line(s) shall be a minimum of six inches (6") above the fill material.

F) The square footage of the application bed (absorption area) shall be equal to the projected daily flow in gallons per day divided by the loading rate of the coarse sand fill, one gallon per day per square foot (1gpd/sq.ft.) or 1.2 gpd/sq.ft. where an aerobic unit is proposed for pretreatment.

G) The minimum length of the application bed parallel to the site contour shall be limited by the maximum linear loading rate. The linear loading rate is equal to the projected daily flow in gallons per day divided by the total length of the application bed in feet, and shall be limited as follows:

1) Type 5 systems on soils in resource groups A,B or C shall be designed with a maximum linear loading rate of eight (8) gallons per day per foot.

2) Type 5 systems on soils in resource groups D or E shall be designed with a maximum linear loading rate of four (4) gallons per day per foot.

H) The square footage of the infiltration area (basal area) shall be equal to the projected daily flow divided by the assigned soil wastewater loading rate in gallons per day per square foot.

I) The basal area is defined, based upon the slope of the site, illustrated in Appendix E.

J) The minimum length of the basal area shall be equal to the minimum length of the application bed, per Section ISD-703.2.4(G).

K) The fill material shall be extended beyond the basal area, tapering to grade at 3:1 slope.

L) The minimum depth of gravel in the application bed shall be ten inches (10") with six inches of gravel beneath the pipe and two inches above.

M) The minimum depth of coarse sand fill material covering the basal area shall be twelve inches (12").

N) The entire Type 5 Mound System shall be covered with a minimum of twelve inches (12") of topsoil to support vegetative cover. Additional cover shall be placed over the application bed at a slope in order to shed stormwater.

O) The gravel of the application bed shall be completely covered with an appropriate geotextile prior to the placement of topsoil.

P) Type 5 Mound Systems shall comply with the provisions of Wisconsin Mound Soil Absorption System Siting, Design and Construction Manual as incorporated in Appendix A.

SECTION ISD-704.0 LOW PRESSURE DISTRIBUTION

ISD-704.1 Low Pressure Pipe Systems: Distribution of wastewater into individual sewage disposal systems by low pressure pipe (LPP) systems as required by this section shall be designed to minimum requirements, as follows:

A) Pretreatment of effluent shall include an approved effluent filter for septic tank effluent or a Class I aerobic unit, as prescribed by section 703 for type 3 systems.

B) Minimum supply/manifold line diameter shall be two inches (2").

C) Minimum lateral wastewater distribution pipe diameter shall be one and one-quarter inches (1 1/4").

D) Minimum perforation size shall be three-sixteenths inches (3/16").

E) Maximum perforation spacing shall be six feet (6').

F) Minimum distal end pressure on any lateral line shall be one foot (1') of pressure head (.43 psi).

G) Maximum distal end pressure on any lateral line shall be five feet (5') of pressure head (2.16 psi).

H) The discharge rate of distribution lines shall be a minimum of .15 gallons per minute per lineal foot, and shall be equal among all distribution lines to within plus or minus five percent (5%).

I) Construction shall comply with the requirements of Chapter 10, and all materials shall comply with the requirements of Chapter 11.

J) Low pressure pipe distribution systems shall otherwise comply with the requirements of Design and Installation of Low Pressure Pipe Waste Treatment Systems as incorporated by Appendix A.

SECTION ISD-705.0 NONCONFORMING SYSTEMS:

ISD-705.1 Design Requirements: The design of wastewater systems which are considered nonconforming in accordance with Section ISD-505.0, shall be determined by the Health Officer on a case by case

basis following general guidelines as follows:

ISD-705.1.1 Wastewater Pretreatment: Pretreatment of wastewater shall be sufficient to provide effluent suitable for the proposed disposal process. Any requirement for pretreatment which is beyond the specifications of this ordinance shall be established based upon projections of wastewater strength, wastewater components, peak flows, soil conditions, or other factors recognized by standard practice as stressful to individual sewage disposal systems.

ISD-705.1.2 Effluent Application: Application of effluent to a soil absorption system shall be designed to preserve the infiltrative capacity of the soil. Consideration shall be given to application methods, such as dosing and alternation of absorption systems, and to the system's potential effect on the soil matrix, such as clogging and ground water mounding.

ISD-705.1.3 Maintenance Responsibility: Maintenance and operational procedure and responsibility shall be closely established and provided for in a recordable binding covenant, or other legal agreement(s) as is deemed appropriate by the State's Attorney.

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CHAPTER 8 - CONTINGENCY SYSTEMS

SECTION ISD-801.0 GENERAL

ISD-801.1 Criteria: The design of wastewater systems proposed for use which may be approved by the Health Officer in accordance with this section shall comply with the specific criteria established in this section and any other applicable criteria established elsewhere in this Ordinance or in the materials incorporated by Appendix A.

ISD-801.2 Approval: Whenever approval for an Individual Sewage Disposal System, as required by Chapter 5, is impossible or impractical, the Health Officer shall consider, when requested, alternatives as described in this Section. When approval is denied as not meeting the design requirements of Section ISD-702, requiring specific design parameters for the ISD System type, the Health Officer may approve an individual sewage disposal system in accordance with this Section.

ISD-801.3 Minimum Requirements: Any contingency individual sewage disposal system proposed shall meet minimum requirements as follows:

ISD-801.3.1 Proposal: A contingency system may be proposed only where an individual sewage disposal system design cannot meet the requirements of Chapter 5 and ISD-702.

ISD-801.3.2 Design Limitations: A contingency system may be approved only where its design is specific to overcome the limitations to approval of an individual sewage disposal system per Chapter 5 , and where its use is consistent with the responsibility of the Health Officer to protect and provide for the health, safety and general welfare of the people of Lake County and other affected communities.

SECTION ISD-802.0 SOIL LIMITATIONS

ISD-802.1 Unsuitable Soil: Whenever approval for an individual sewage disposal system is impossible or impractical because the soil is not suitable, the Health Officer may approve a contingency system as follows:

ISD-802.1.1 Artificial Drainage: When the soil is not suitable only because it is, or is likely to be, saturated to within twelve inches (12") of the soil's surface, the Health Officer may approve a Type 5 System with artificial drainage to alter or modify the movement of groundwater into and through the soil. The Type 5 system shall meet the requirements of Section ISD-703.2.4 and the effectiveness of the drains shall be demonstrated as follows:

A) The drain(s) shall be installed as proposed, and the saturation of the soil shall be monitored by an Illinois Licensed Professional Engineer or a Certified Professional Soil Classifier and the Lake County Health Department during March, April, and May when the average rainfall is not greater than 10% less than the historical average.

B) The construction and location of monitoring wells or piezometers and the frequency of observations shall be established by the Health Officer. The monitoring wells shall be installed as specified by the Health Officer.

C) The drains shall maintain a minimum equilibrium soil saturation level twenty-four inches (24") below the surface.

-or-

ISD-802.1.2 Special Use System: When the soil is not suitable because its texture, structure or consistence is not suitable and the assigned wastewater loading rate is 0.0 gallons per day per square foot, the Health Officer may approve a Special Use System as provided for in this Section to accept, in whole or in part, the wastewater flow for treatment, disposal or storage.

SECTION ISD-803.0 DESIGN LIMITATIONS

ISD-803.1 Noncompliant System Design: Whenever approval for an individual sewage system is impossible or impractical because the proposed design is not in compliance with the provisions of Chapter 5 and ISD-702, the Health Officer may approve a contingency system as follows:

ISD-803.1.1 Alternating Soil Absorption Systems: ISD System Types 1, 2 and 3 may be approved where two separate soil absorption systems are installed, and each subsystem is equal to seventy percent (70%) of the required capacity provided that:

A) All other provisions of this Ordinance are met.

B) The distribution to and into the subsystems is by low

pressure pipe in accordance with Section ISD-703.2.2 and Section ISD-704.0, as applicable..

C) The supply line is split by a single diverter valve into supply lines to each of the subsystems.

D) An agreement is established with a licensed contractor to alternate the use of the subfields on a yearly basis.

ISD-803.1.2 Special Use Systems: A special use system as provided for in this Section may be approved to accept, in whole or in part, the wastewater flow for treatment, disposal, or storage.

SECTION ISD-804.0 SPECIAL USE SYSTEMS

ISD-804.1 Variance Approval: Whenever an individual sewage disposal system cannot be approved because a soil absorption system cannot meet the requirements of this Ordinance, the Health Officer may approve a variance for a special use absorption system to accept, in whole or in part, wastewater for treatment, disposal or storage.

ISD-804.2 Surface Discharging System: Buried sand filters, recirculating sand filters, Class I aerobic units, or other wastewater treatment processes designed to treat, disinfect, and discharge to the surface may be approved provided that:

ISD-804.2.1 Failing System: The system is proposed to replace a substandard existing system for an existing structure.

ISD-804.2.2 Unsuitable Soil: All suitable soils on the site have been employed for wastewater infiltration.

ISD-804.2.3 Dilution: A discharge point to a surface water or wetland provides a minimum 5:1 dilution of the effluent.

ISD-804.2.4 Recreational Water Restriction: The proposed discharge point is a minimum of 1/4 mile from an area used for recreational purposes.

ISD-804.2.5 System Design: The proposed system is designed to meet final discharge effluent standards as follows:

A) BOD5 less than 30 ppm.

B) Total suspended solids less than 30 ppm.

C) Fecal coliform less than 400 organism/100 ml.

D) Residual chlorine 1.0 ppm

ISD-804.3 Experimental Systems: The Health Officer may consider, upon request, the approval of a proposed wastewater system which is different in process or design from the specifications of this Ordinance. The consideration of approval for such experimental systems shall include a review of existing performance data, if any, and an evaluation of applicable technical criteria relative to the treatment and/or disposal of wastewater as proposed in comparison to the intent of this Ordinance. Any system proposed for an experimental use shall also be subject to approval by the Illinois Department of Public Health. Such approval may be by the IDPH experimental use permitting procedure, or by special consideration by IDPH of the specific proposal and individual circumstance.

ISD-804.3.1 Approved Systems The following system designs are approved , having received approval status through the Illinois Department of Public Health Experimental Use protocol:

A) Aquarobic raised filter bed
B) Infiltrator Chamber, models EQ- 36 and EQ-24

SECTION ISD-805.0 TEMPORARY HOLDING TANKS

ISD-805.1 Criteria: The Health Officer may approve the use of a temporary holding tank as follows:

ISD-805.1.1 Sanitary Sewers: As an approved individual sewage disposal system while awaiting the extension of a sanitary sewer, where the service of the sanitary sewer is imminent so as not to exceed one year.

ISD-805.1.2 Weather Conditions: Where an individual sewage disposal system is approved, but its construction is delayed by weather conditions, not to exceed six months.

ISD-805.1.3 Recreational Vehicles: As a sanitary dumping station to receive wastewater from the holding facilities of recreational vehicles.

ISD-805.2 Sizing and Equipment: Temporary holding tanks shall be sized at a minimum of two (2) times the projected daily flow or a minimum of 1500 gallons, unless otherwise approved, and shall be equipped with an audio-visual alarm to signal two-thirds of the total capacity.

ISD-805.3 Waste Removal and Disposal: Wastes removed from holding tanks shall be disposed of only at an approved wastewater treatment plant or a hazardous waste landfill designed to accommodate untreated sewage.

SECTION ISD-806.0 ADMINISTRATION

ISD-806.1 Procedure: Administrative procedure and fees relative to this Chapter shall be in accordance with Chapter 16.

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CHAPTER 9 - PLANS

SECTION ISD-901.0 GENERAL

ISD-901.1 Plans Required: Prior to granting approval for an Individual Sewage Disposal System, the Health Officer shall review a plan prepared according to this Chapter to determine the compliance of the proposed individual sewage disposal system with the requirements of this Ordinance.

SECTION ISD-902.0 PLAN SPECIFICATIONS

ISD-902.1 Minimum Standards: Any plan for an individual sewage disposal system, except where the proposal is only to repair, replace or add septic tanks, lift stations, pre-treatment units or other components other than soil absorption capacity, shall meet minimum standards as established in this section.

ISD-902.2 Licensed Designer: The plan shall be prepared by a person licensed as a Lake County Licensed Individual Sewage Disposal System Designer, in accordance with Chapter 12.

ISD-902.3 Topographical Survey: The plan shall be drawn on a topographical survey, as defined by Section ISD-202.0, to provide accurate contour lines depicting each one foot change in elevation.

ISD-902.4 Plan Size, Scale: The plan shall be drawn on a minimum size sheet of 11 ½" by 17" and to a scale of 1" = 10', 1" = 20' or 1" = 30', unless otherwise approved.

ISD-902.5 Readable Copies: The plan shall be prepared and copied so as to be easily readable.

ISD-902.6 Dimensions: The plan shall properly locate and specify dimensions for:

ISD-902.6.1 Property Lines: All property lines.

ISD-902.6.2 Improvements: All existing and proposed buildings, driveways and other improvements.

ISD-902.6.3 Utilities: All utility easements, underground utility and service lines, and any overhead utility lines within 25' (twenty-five feet) of the proposed well location.

ISD-902.6.4 Water Wells: All existing and proposed water wells on the property or within 75' (seventy-five feet) of a property line; the entire radius of any proposed well shall be contained on the subject property, whenever possible.

ISD-902.6.5 Individual Sewage Disposal Systems: All existing and proposed individual sewage disposal systems on the property or within 75' (seventy-five feet) of a property line.

ISD-902.6.6 Drainage: All drainage easements, ditches, streams, swales or other stormwater pathways, including storm sewers.

ISD-902.6.7 Surface Waters/Wetlands: All surface waters or wetlands on the property or within 50' (fifty feet) of a property line. Based upon the discretion of the Lake County Health Department Soil Scientist, a wetland delineation may be required.

ISD-902.7 ISD Specifications: The plan shall properly locate and provide dimensions or specifications for the proposed individual sewage disposal system as follows:

ISD-902.7.1 Individual Sewage Disposal Components: Location and size of all septic tanks, pretreatment units and lift stations.

ISD-902.7.2 Soil Evaluation: Location of all soil evaluation points.

ISD-902.7.3 Components: Location and size of all components of the soil absorption system as applicable, including:

A) Piping to the soil absorption system.
B) Distribution boxes, drop boxes, diverter valves.
C) Soil Absorption trenches.
D) Pressure distribution piping in at-grade or mound systems.
E) Gravel application beds in mound systems.
F) Areas of approved filling.

ISD-902.7.4 Storage/Traffic: Location for material storage and a pathway for construction traffic.

ISD-902.8 Specific Elevations: The plan shall provide specific elevations, referenced to the topographical survey as follows:

ISD-902.8.1 Benchmark: The elevation of a permanent benchmark.

ISD-902.8.2 Floodplain: The elevation of floodplain, if any.

ISD-902.8.3 Sewer/Septic: The elevations of the invert of the building sewer and the inlet(s) of the septic tank or other pretreatment units.

ISD-902.8.4 Distribution Box: The elevation of the invert of a distribution box, except where a lift station is proposed.

ISD-902.8.5 Distribution Line: The elevation of any low pressure lateral distribution line.

ISD-902.9 Detailed Cross Section: A detailed cross section for the soil absorption system specifying original grade and the relative placement of fill material, gravel, piping and cover material.

ISD-902.10 Required Additional Information: The plan shall include additional information as follows:

ISD-902.10.1 Legal Description: A legal description of the property.

ISD-902.10.2 Property Location: A sketch of the property location.

SECTION ISD-903.0 PLAN SPECIFICATIONS FOR SYSTEM COMPONENTS, REPAIRS REPLACEMENTS OR ADDITIONS

ISD-903.1 Minimum Standards: A plan submitted for approval where the proposal is only to repair, replace or add system components other than soil absorption capacity shall meet minimum standards as established in this section.

ISD-903.2 Licensed Designer, Contractor: The plan shall be prepared by a person licensed as a Lake County Individual Sewage

Disposal System Designer or Contractor in accordance with Chapter 12.

ISD-903.3 Scale: The plan shall be to a scale of 1" = 10', 1" = 20', or 1" = 30' unless otherwise approved.

ISD-903.4 Readable Copies: The plan shall be prepared and copied so as to be easily readable.

ISD-903.5 Plan Requirements: The plan shall show:

ISD-903.5.1 Buildings: The location of any buildings.

ISD-903.5.2 Existing Components: The location of the existing components of the system.

ISD-903.5.3 Proposed System: The location and size as applicable of the proposed repair, replacement or addition.

ISD-903.5.4 Water: The location of water wells and/or water supply lines.

ISD-903.5.5 Offset Requirements: Other information as is applicable to the requirements of this Ordinance for offset requirements in accordance with appendix D.

ISD-903.5.6 Legal Description: A legal description of the property.

SECTION ISD-904.0 SUPPLEMENTAL INFORMATION

ISD-904.1 Required Information: Any individual sewage disposal system plan submitted for approval shall be submitted with forms provided and shall include any other information detailing the design of the individual sewage disposal system, where applicable, as established by this section.

ISD-904.2 Soil Evaluation: The soil evaluation report.

ISD-904.3 Projected Wastewater Flow: A calculation of the projected wastewater daily flow, including a floor plan of a proposed residence or establishment.

ISD-904.4 Component Capacity: A calculation of the capacity of the components of the system and of the soil absorption system.

ISD-904.5 Length Calculation: A calculation of the bed length of an at-grade or mound system as referenced in Sections ISD-703.2.3 and ISD-703.2.4.

ISD-904.6 Low Pressure Pipe Distribution System Calculation: A calculation of low pressure pipe distribution system as referenced in Section ISD-704.1.

ISD-904.7 Other Applicable Information: Reports from engineers, wetland consultants, or other professionals, as may be required to establish stormwater drainage, wetland delineations, surface water elevations, floodplain or other applicable information necessary for the evaluation of the plan.

ISD-904.8 Site Plan: An approved site development plan, pursuant to Section ISD-502.1.4.

ISD-904.9 Variance Request: Other information as may be applicable for consideration of a variance request.

SECTION ISD-905.0 PROPOSED SUBDIVISIONS

ISD-905.1 Minimum Standards: Any plan for a new subdivision submitted for approval shall meet minimum requirements as established by this section.

ISD-905.2 Licensed Professional Engineer: The plan shall be prepared by an Illinois Licensed Professional Engineer.

ISD-905.3 Topographical Survey: The plan shall be drawn on a topographical survey to provide accurate contour lines depicting each one foot change in elevation.

ISD-905.4 Scale: The plan shall be drawn to a scale of 1" = 100' or less.

ISD-905.5 Soil Evaluation Points: The plan shall locate all soil evaluation points.

ISD-905.6 Site Characteristics: The plan shall locate and specify site characteristics as follows:

ISD-905.6.1 Water Wells/ISD Systems: All existing water wells or individual sewage disposal systems.

ISD-905.6.2 Waters or Drainage: All existing streams, stormwater runoff channels, wetlands, surface waters, subsurface field tiles and the extent of poorly drained areas or floodplain.

ISD-905.6.3 Stormwater Systems: All proposed stormwater systems including runoff channels, storm sewers, detention or retention areas and drain tiles.

ISD-905.6.4 Roadways: Proposed roadways and other areas where existing soils will be disturbed.

ISD-905.6.5 Wooded Areas: Heavily wooded areas or required conservancies.

ISD-905.7 Lot Specifications: The plan shall locate each proposed lot and shall demonstrate the capacity of each lot to meet the requirements of this Ordinance.

ISD-905.8 Soil Maps and Soil Boring Logs: Soil maps and soil boring logs must accompany the plan submittal if the work was completed by a private Certified Professional Soil Classifier.

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CHAPTER 10 - CONSTRUCTION REQUIREMENTS

SECTION ISD-1001.0 GENERAL

ISD-1001.1 General: Every individual sewage disposal system, once approved, shall be constructed in a manner to preserve the condition of the soil absorption area, and to promote the long-term sanitary

treatment and disposal of wastewater.

ISD-1001.2 Inspections: The Health Officer shall conduct inspections of individual sewage disposal systems under construction to ensure compliance with the requirements of this Ordinance.

SECTION ISD-1002.0 PERMIT & LICENSE REQUIREMENTS

ISD-1002.1 Construction Permit: No individual sewage disposal system shall be constructed or repaired until a permit for its construction or repair has been issued. An approved construction permit shall be posted on the site in a prominent location.

ISD-1002.1.1 Site Evaluation: The Health Officer shall evaluate each site prior to the issuance of the construction permit to ensure that the soil absorption area has not been altered, that the soil absorption area is protected by fencing, and that the information previously submitted and approved is substantially unchanged.

ISD-1002.1.2 Refusal to Issue Permit: The Health Officer may refuse to issue a construction permit where conditions on the site are inconsistent with the approved plan, or where the soil absorption area is unprotected from construction traffic by appropriate fencing. Where the issuance of a construction permit is refused, the Health Officer may require corrective action or an initiation of the original approval process as appropriate.

ISD-1002.2 Licensed Contractor: No person shall construct or repair an individual sewage disposal system in Lake County unless such person holds a valid Individual Sewage Disposal System Contractor's License in accordance with Chapter 12. The licensed contractor shall directly supervise all work conducted on an individual sewage disposal system, and shall be responsible to ensure that the work complies with this Ordinance.

SECTION ISD-1003.0 SITE PREPARATION

ISD-1003.1 Minimum Requirements: Any preparation of the soil absorption area shall be conducted only when the soil is dry. Site preparation shall be conducted under the supervision of the licensed contractor as established in this section.

ISD-1003.2 Mowed: All sites shall be mowed and cleared of brush.

ISD-1003.3 Tree Removal: Any removal of trees shall be by cutting near the surface. Stumps may be removed by grinding or cutting, but shall not be uprooted.

ISD-1003.4 Plow: Sites approved for ISD system types 3, 4 and 5 shall be plowed prior to the placement of fill or gravel as follows:

ISD-1003.4.1 Equipment: Equipment shall be a chiselplow or mold board plow.
ISD-1003.4.2 Contour: Plowing shall be done parallel to the site contour.

ISD-1003.4.3 Tillage: Tillage shall be minimal to break the consistency of the sod; maximum depth of tilling shall be eight inches (8").

ISD-1003.4.4 After Tilling: After tilling, the site shall not be graded or smoothed.

SECTIONISD1004.0 FILL

ISD1004.1Minimum Requirements: The placement of fill material for ISD system types 3, 4 and 5 shall be as established in this section.

ISD-1004.2 Fill Specifications: Fill shall be approved coarse sand, except in the type 4 at-grade system where only gravel is required, but is handled and placed in the same manner as fill material.

ISD-1004.3 Fill Placement: The fill shall be placed according to the approved plan and shall be placed immediately after site preparation.

ISD-1004.4 Storage and Transportation: The storage and transportation of fill shall be as specified on the approved plan; no traffic shall be allowed directly on the plowed area.

ISD-1004.5 Filling Procedure: Fill shall be placed only from the upslope or ends of the proposed soil absorption area as follows:

ISD-1004.5.1 Using Backhoe: Material may be placed with a backhoe reaching into the soil absorption area.

ISD-1004.5.2 Using Low Compression Equipment: Material may be pushed into the soil absorption area by low compression equipment maintaining a minimum of ten inches of material beneath the equipment.

SECTION ISD-1005.0 EXCAVATION

ISD-1005.1 Minimum Requirements: The excavation for components and soil absorption trenches shall be as established by this section.

ISD-1005.2 Components: Excavations for septic tanks, pretreatment units, lift stations, sewer lines, header lines, pressure supply lines and other system components other than soil absorption trenches shall be as follows:

ISD-1005.2.1 Appropriate Elevations or Overcut: Excavations shall be made to the appropriate elevation or overcut only to accommodate bedding material.

ISD-1005.2.2 Grading: Excavations shall be level or uniformly graded as appropriate so that tanks, containers, and piping is supported and secure.

ISD-1005.2.3 Slope Excavations for piping shall be uniformly sloped so that wastewater does not pond in bowed areas.

ISD-1005.3 Trench Excavation: Excavation for soil absorption trenches or beds shall be as follows:

ISD-1005.3.1 Site Contour: Excavation shall be uniformly along the site contour, not exceeding the depth specified on the approved plan.

ISD-1005.3.2 Bottom Surface: The trench or bed shall be excavated with a level bottom surface.

ISD-1005.3.3 Compaction and/or Smearing Protection: Excavation shall be done so as to preserve the infiltrative trench or bed bottom and sidewalls from compaction and/or smearing.

SECTION ISD-1006.0 GRAVEL

ISD-1006.1 Minimum Regulations:: Gravel shall be placed in soil absorption trenches as follows:

ISD-1006.2 Gravel Depth: The depth of gravel specified below the distribution pipe shall be uniform, and of the minimum depth in accordance with section 703.0.

ISD-1006.3 Placement: The gravel shall be placed carefully to avoid compaction of the infiltrative surface.

ISD-1006.4 Gravel/Piping: Gravel shall be placed around the distribution piping and covering the piping a minimum of two inches (2").

ISD-1006.5 Covering: The top of gravel in any soil absorption system shall be covered with geotextile prior to backfilling**. O**ther approved barrier materials, such as untreated building paper or straw, may be employed except where geotextile is specifically required by section 703.0.

ISD-1007.0 PIPING

ISD-1007.1 Minimum Standards: All piping installed for individual sewage disposal systems shall be uniformly supported, sloped as appropriate, and otherwise installed as established in this section.

ISD-1007.2 Building Sewers: Building sewers shall be sloped not less than 1/8" per foot nor more than 1/4" per foot.

ISD-1007.3 Connections: All piping shall be connected, solvent joined, or attached with an appropriate adapter as acceptable for the material to ensure that connections do not separate or allow the leakage of wastewater or infiltration of groundwater.

ISD-1007.4 Sealing: Piping entering or exiting septic tanks, pretreatment units, lift stations, distribution devices, or other component not equipped with a watertight connection shall be sealed.
ISD-1007.5 Pressure Pipe Connections: Pipe connectors and fittings on pressure supply lines, manifolds, or lateral distribution pipes shall be pressure connectors or fittings.

ISD-1007.6 Distribution Boxes: Pipe directly connected to distribution boxes shall be rigid, non-corrugated, non-perforated pipe extending into the absorption area as specified by Section ISD-703.2.1.

SECTION ISD-1008.0 BACKFILLING

ISD-1008.1 Minimum Requirements: Backfilling operations shall be conducted as established by this Section. Backfill material shall meet the specifications established by Section ISD-1108.0.

ISD-1008.2 Weather Conditions: Backfill material shall not be frozen or wet.

ISD-1008.3 Timing: Backfilling and covering shall be completed as soon as practical.

ISD-1008.4 Drainage: Backfilling and covering shall direct stormwater away from system components and the soil absorption area.

ISD-1008.5 Placement Around Components: Backfill for excavations of tanks, distribution devices, piping, etc., shall be carefully placed to avoid displacing the components. The backfill material shall be tamped or compacted to secure the components, minimize settling, and prevent wastewater seepage along excavations.

ISD-1008.6 Placement in Soil Absorption Area: Backfill and/or cover for soil absorption areas shall be carefully placed to avoid displacing the barrier material.

ISD-1008.7 Equipment Traffic: The backfill or cover shall be placed with a minimum of equipment traffic.

ISD-1008.8 Expansion Areas: No traffic shall be allowed on downslope areas or expansion areas.

SECTION ISD-1009.0 ACCESSORIES

ISD-1009.1 Minimum Requirements: Devices and piping employed for the distribution of wastewater into the soil absorption area or regulating the flow of wastewater shall be constructed, installed or equipped as established by this Section.

ISD-1009.2 Equal Flow Distribution Box: Where an equal flow distribution box is employed to direct wastewater flow to two or more wastewater absorption pipes, the invert elevation of all outflow pipes shall be leveled with a premanufactured cap specifically designed to adjust the flowline of distribution box piping.

ISD-1009.3 Perforations: Perforations drilled into low pressure pipe wastewater distribution lines shall be carefully placed along a straight line, and drilled at a perpendicular angle to the apex of the pipe.

ISD-1009.4 Other Components: Diversion valves, flow control valves, effluent filters or any other component which is located outside of a septic tank or similar containment shall be provided with access to final grade sufficient to allow applicable adjustment or maintanance as required.

ISD-1009.5 Lift Station Pumps: Lift station pumps shall be placed at least six inches (6") above the floor of the lift station. Float switches shall be secured to the vertical piping with corrosion resistant straps or ties. All pumps shall be provided with a threaded coupling or other disconnecting fitting, and shall be provided with a corrosion resistant rope, strap or other device for removing the pump.

ISD-1009.6 Audio-Visual Alarm: Pumps, aerobic units, or other mechanical system shall be provided with an audio-visual alarm. Electrical wiring and connections shall conform to applicable standards.

SECTION ISD-1010.0 COMPLIANCE

ISD-1010.1 Minimum Requirements: No individual sewage disposal system or part thereof shall be backfilled until the system has been inspected and approved. Any part that has been covered before inspection and approval shall be uncovered as required by the Health Officer.

ISD-1010.2 Inspections: The Health Officer shall make inspections of the construction of individual sewage disposal systems to ensure compliance with the requirements of this Ordinance.

ISD-1010.3 Required Inspections: Inspections shall be requested by the licensed contractor as follows:

ISD-1010.3.1 Site Preparation: Inspection of the plowed surface of the soil absorption area

ISD-1010.3.2 System: Inspection of completed system prior to backfill or cover, of low pressure pipe prior to gravel cover, and other components as necessary

ISD-1010.3.3 Final: Inspection of final grading, pressure tests of low pressure systems, floor plan, clean water discharges, system accessories, and other items as necessary.

ISD-1010.4 Other Inspections: The Health Officer may require or conduct any other inspections as may be necessary.

ISD-1010.5 Covering system: No portion of the system shall be covered until approved by the Health Officer. The Health Officer, after identification, shall have access to the property at any reasonable time for the purpose of conducting inspections.

ISD-1010.6 Nonconforming parts: Where inspection discloses defective material or unworkmanlike construction which does not conform to the requirements of this Ordinance, the nonconforming parts shall be removed, replaced and reinspected.

ISD-1010.7 Final Approval: No individual sewage disposal system shall be placed into service without the final approval of the Health Officer.

SECTION ISD-1011.0 ADMINISTRATION

ISD-1011.1 Administrative Procedures and Fees: Administrative procedure and fees relative to this Chapter shall be in accordance with Chapter 16.

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CHAPTER 11 - MATERIALS

SECTION 1101.0 GENERAL

ISD-1101.1 Minimum Standards: All materials employed in the construction or repair of individual sewage disposal systems shall be to the specifications of this Ordinance to minimize maintenance, repair, or replacement and to promote the long-term treatment and disposal of wastewater. Specifications detailed in this Chapter shall be a minimum.

ISD-1101.2 Approval: All materials, equipment and devices approved for use shall be constructed and installed in accordance with such approval.

ISD-1101.2.1 Reconditioning: The Health Officer shall have the right to approve used materials, equipment and devices provided that such materials and equipment have been reconditioned, tested and placed in working condition. No reconditioned materials or equipment may be employed in Class I aerobic units.

ISD-1101.2.2 Technical Data: The Health Officer may require that sufficient technical data be submitted to substantiate the proposed use of any material or assembly, and if it is determined that the evidence submitted is satisfactory proof of performance for the use intended, the Health Officer shall approve its use subject to the requirements of this Ordinance. The costs of all tests, reports and investigations required under these provisions shall be paid by the applicant.

SECTION ISD-1102.0 PRETREATMENT COMPONENTS

ISD-1102.1 Septic Tanks: Any septic tank employed in the construction or repair of an individual sewage disposal system shall meet the minimum standards for construction established in the Illinois Private Sewage Disposal Licensing Act and Code.

ISD-1102.2 Aerobic Units: Any aerobic unit employed in the construction or repair of an individual sewage disposal system, whether discharging into a soil absorption system or the surface, shall be listed by NSF International as a Class I unit.

ISD-1102.3 Effluent Filters: Any effluent filter employed in the construction or repair of an individual sewage disposal system shall be designed for the specific purpose of filtering septic tank effluent, shall be effective in the reduction of BOD5 and Total Suspended Solids, and shall be easily maintained.

SECTION ISD-1103.0 LIFT STATIONS

ISD-1103.1 General: Any lift station employed in the construction or repair of an individual sewage disposal system shall be watertight and shall be designed to prevent floatation when emptied.

ISD-1103.2 Risers: Every lift station shall be equipped with a riser extending a minimum of four inches (4") above grade covered with a lid secured to prevent unauthorized entry.

ISD-1103.3 Pumps and Controls: Any pump employed in the construction or repair of an individual sewage disposal system shall be specified by its manufacturer as an effluent or sewage pump. Pumps shall be non-automatic, operated by an external switch or control.

ISD-1103.3.1 Pump Switches: Pump switches shall be sealed mercury float switches or equal. Any pump employed in a low pressure pipe system shall be controlled by dual switches to accurately regulate pumping volume.

ISD-1103.3.2 Pump Controls: Pump controls, if

employed, shall be operated by mercury float switches or equal. Duplex controls shall be wired as three float, alternating cycles**.**

ISD-1103.3.3 Electrical Boxes: Electrical boxes shall be water tight and located outside of the pump tank.

ISD-1103.3.4 Timing: No pump shall be operated by a timing mechanism unless specifically proposed and approved for the individual circumstance..

SECTION ISD-1104.0 DISTRIBUTION DEVICES

ISD-1104.1 General: Any distribution boxes employed in the construction or repair of an individual sewage disposal system shall be constructed of concrete or plastic.

SECTION ISD-1105.0 VALVES

ISD-1105.1 General: Any valve employed in the construction or repair of an individual sewage disposal system shall be as established by this Section.

ISD-1105.2 Diversion Valves: Diversion valves shall be PVC and shall be designed with one inlet dividing flow into either of two or more outlets, and be operated by a single valve control.

ISD-1105.3 Ball or Gate Valves: Ball valves or gate valves in low pressure pipe systems shall be PVC.

ISD-1105.4 Check Valves: Check valves, where specified , shall be PVC solvent joined or compression fitting.

SECTION ISD-1106.0 PIPING

ISD-1106.1 General: Any piping employed in the construction or repair of an individual sewage disposal system shall be as established by this Section or an equivalent for the intended use as specified in the Illinois Private Sewage Disposal Code, Section 905, Appendix A, Illustration C.

ISD-1106.2 Building Sewers: Building sewers shall be Schedule 40 PVC , four inches or greater in diameter.

ISD-1106.3 Gravity Effluent Lines: Gravity effluent lines shall be SDR 35 PVC, four inches in diameter.

ISD-1106.4 Pressure Supply Lines: Pressure supply lines shall be SDR 21 PVC , and

ISD-1106.4.1 LPP Systems: 2" minimum diameter on low pressure pipe systems.

ISD-1106.4.2 Distribution Boxes: 1 ½" minimum diameter to distribution boxes.

ISD-1106.5 Low Pressure Lateral Piping: Low pressure pipe lateral distribution piping shall be SDR 26 PVC and 1 1/4" minimum diameter

ISD-1106.6 Gravity Lateral Piping: Gravity lateral distribution piping shall be corrugated polyethylene ASTM Standard F667-84 and 4" minimum diameter.

ISD-1106.7 Appropriate Size & Material: Couplings, connectors and fittings shall be as appropriate for the size, material, and use.

ISD-1106.8 Pressure Lines or Low Pressure Pipe Systems: All fittings in pressure lines or low pressure pipe systems shall be schedule 40 PVC pressure fittings.

SECTION ISD-1107.0 FILL - AGGREGATE

ISD-1107.1 Fill Material: Any fill material employed in the construction or repair of an individual sewage disposal soil absorption system shall be coarse sand.

ISD-1107.2 Gravel: Any gravel employed in the construction or repair of an individual sewage disposal system shall be sized between 3/4" and 1 ½", and shall be washed to be essentially free of dust, sand or other material.

ISD-1107.3 Barrier Material: Any material employed in the construction or repair of an individual sewage disposal system to separate gravel from backfill or cover soil shall be an approved biodegradable material, such as untreated building paper, or an appropriate geotextile. Barrier material for ISD system types 4 and 5 shall be an appropriate geotextile only.

ISD-1108.0 BACKFILL/ TOPSOIL

ISD-1108.1 Backfill Material: Any soil material used in backfilling or covering individual sewage disposal system components or soil absorption areas shall be free of rocks, clods and extraneous materials, of a suitable quality to support vegetative cover, and requiring a minimum of landscaping.

ISD-1109.0 ITEMS NOT SPECIFIED

ISD-1109.1 Other Materials: Any material employed in the construction or repair of an individual sewage disposal system which is not specified in this section shall be approved only after a review of the proposed usage by the Health Officer.

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CHAPTER 12 - LICENSING

SECTION ISD 1201.0 GENERAL

ISD-1201.1 Authority: The Health Officer shall regulate the evaluation of soils and the design, construction, and pumping of individual sewage disposal systems in Lake County by requiring any individual who would evaluate soils or design, construct, or pump an individual sewage disposal system to possess a license.

SECTION ISD-1202.0 SOIL CLASSIFIERS

ISD-1202.1 Minimum Requirements: Any person who would evaluate soils for an individual sewage disposal system shall be knowledgeable of the methods and principles of soil classification and experienced in determining the formation, morphology and description of soils and their applicable characteristics.

ISD-1202.2 Credentials and Annual Renewal: The Health Officer shall license Soil Classifiers by the review and verification of valid certification by either the Illinois Soil Classifiers Association or the American Registry of Certified Professionals in Agronomy, Crops, and Soils and shall renew the license annually.

ISD-1203.0 INDIVIDUAL SEWAGE DISPOSAL SYSTEM DESIGNERS

ISD-1203.1 Minimum Requirements: Any person who would design an individual sewage disposal system shall be knowledgeable of the rules and regulations of the State of Illinois and the County of Lake, and of the general provisions of the materials incorporated by Appendix of this Ordinance.

ISD-1203.2 Examination and Annual Renewal: The Health Officer shall license Individual Sewage Disposal System Designers by the administration of an examination, and shall renew the license annually.

ISD-1203.3 New Subdivision : An Illinois Licensed Professional Engineer submitting for the approval of a new subdivision is not required to be a Licensed Individual Sewage Disposal System Designer.

ISD-1204.0 INDIVIDUAL SEWAGE DISPOSAL SYSTEM CONTRACTORS

ISD-1204.1 Minimum Requirements: Any person who would construct an individual sewage disposal system shall be knowledgeable of the construction procedures specified herein, and of the interpretation of plans, drawings, and specifications relative to the construction of an individual sewage disposal system.

ISD-1204.2 Examination and Annual Renewal: The Health Officer shall license Individual Sewage Disposal System Contractors by the administration of an examination, and shall renew the license annually.

ISD-1204.3 Training Sessions: The Health Officer may require, as a condition of license renewal, the licensed contractor to attend training sessions or to demonstrate practical proficiency. Any requirement for training shall be offered by the Lake County Health Department at times, locations, and in multiple sessions so as to allow a reasonable opportunity for every licensed contractor to schedule attendance. The Department shall give written notice to every licensed contractor at least twenty-one (21) days prior to any training session required for licensure.

ISD-1205.0 INDIVIDUAL SEWAGE DISPOSAL SYSTEM PUMPERS

ISD-1205.1 Minimum Requirements: Any person who would clean or pump waste from a private sewage disposal system or portable toilet or haul or dispose of wastes removed therefrom, shall be knowledgeable of the requirements of Chapter 13 of this Ordinance. The Health Officer shall license individual sewage pumpers and shall renew the license annually.

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CHAPTER 13 - WASTE HAULERS AND SEPTAGE DISPOSAL

SECTION ISD-1301.0 GENERAL

ISD-1301.1 Minimum Requirements: Domestic septage may be disposed of only by methods established in this section.

ISD-1301.1.1 Sewage Treatment Facility: Septage may be disposed of at a sewage treatment plant appropriately licensed to operate by the Illinois Environmental Protection Agency.

ISD-1301.1.2 Landfill: Septage may be disposed of at a landfill appropriately permitted to operate and to accept the material by the Illinois Environmental Protection Agency.

ISD-1301.1.3 Application to Agricultural Land: Septage may be applied to agricultural land as specifically established in this section.

ISD-1301.1.4 Other Approved Methods: Septage may be disposed of by other methods subject to the approval of that method by the Illinois Environmental Protection Agency and the Illinois Department of Public Health.

SECTION ISD-1302.0 LAND APPLICATION SITE APPROVAL

ISD-1302.1 General: Septage shall not be land applied on any site without prior approval of the Health Officer.

ISD-1302.1.1 Permit: Sites approved for land application of septage shall receive a permit from the Health Officer.

ISD-1302.1.2 Permit Renewal: Permits issued for septage land application sites shall expire on December 31 of each year, and must be renewed.

ISD-1302.1.3 Permit Suspension: The Health Officer may suspend for good cause the permit of any septage land application site. Any appeal of such suspension and any penalty for continued use of a site after permit suspension shall be as established by this ordinance.

ISD-1302.2 Approval Conditions: Any site submitted for approval as a septage land application site shall meet minimum standards as established by this section.

ISD-1302.2.1 Notification of municipality: No site within the boundaries of a municipality may be approved for septage land application without the written approval of the municipality's corporate authority.

ISD-1302.2.2 Limiting Layer: Septage shall not be applied on land having a limiting layer within 4 feet of the soil surface.

ISD-1302.2.3 Floodplain/Surface Water: Sites proposed for septage land application shall be above floodplain elevation, and shall be separated from surface waters and/or wetlands

ISD-1302.2.4 Slope: The slope of sites proposed for septage land application shall not exceed five percent (5%).

ISD-1302.2.5 Offset Requirements: Any areas designated for septage land application shall be offset as established by this section.

ISD-1302.2.5.1 Water Wells: Application area shall be a minimum of 300 feet from any water well.

ISD-1302.2.5.2 Public Roads: Application areas shall be a minimum of 100 feet from any public road.

ISD-1302.2.5.3 Residential, Commercial or Industrial Areas: Application areas shall be a minimum of 1400 feet from areas regularly populated or utilized by humans.

ISD-1302.2.5.4 Surface Waters: Application areas shall be a minimum of 200 feet from any surface water, wetland, drainage ditch, or surface inlet to subsurface drains.

SECTION ISD-1303.0 SITE MANAGEMENT

ISD-1303.1 Site Posted: Any septage land application site shall be appropriately posted when there is potential for public access.

ISD-1303.2 Ponding: Septage shall not be applied where water is ponded in the land application area.

ISD-1303.3 Pooling: Septage shall be evenly spread over the application areas to prevent pooling.

ISD-1303.4 Rainfall: Septage shall not be applied to a site which has been saturated by rainfall during the 24 hour period preceding the intended application time.

ISD-1303.5 Application Rates: The cumulation volume of septage applied per year shall not exceed the nitrogen requirements of the cover crop

ISD-1303.5.1 Cover Crop: A cover crop must be established on land application sites prior to the first application of septage, even where the crop is not intended for harvest.

ISD-1303.6 Vegetation Restricted: The use of a septage application site for vegetation shall be restricted.

ISD-1303.6.1 Vegetables and Fruits: The cultivation of root vegetables or other low growing fruits or vegetables on septage disposal sites is prohibited.

ISD-1303.6.2 Pasture: Pasture utilized for septage application shall be restricted from harvest or animal grazing for a minimum of 30 days following septage application.

ISD-1303.7 Spillage: Septage shall be transported and land applied in such a manner as to prevent spillage of wastes or the deposition of wastes or mud onto any public road or right of way.

ISD-1303.8 Soil Incorporation: When conditions exist at a septage land application site which are determined by the Health Officer to be a nuisance, septage shall be appropriately incorporated into the soil after application.

ISD-1303.8 Soil Injection and Tillage: If septage is injected or tilled into the soil throughout the growing season as a method of pathogen control, application must be done on a rotational basis within the site to maintain vegetative growth.

SECTION ISD-1304.0 EQUIPMENT

ISD-1304.1 General: Any vehicle used for the collection and transportation of septage shall be properly equipped and maintained as established by this Section.

ISD-1304.2 Container: Vehicle tanks shall be completely enclosed and leak free.

ISD-1304.3 Pump: Septage pumps shall be vacuum or self priming and shall be leak free.

ISD-1304.4 Hoses: Septage hoses shall be leak free, and stored in such a manner that contamination will not create a health risk or nuisance.

ISD-1304.5 Discharge Nozzle: Septage tank discharge nozzles shall be located in such a manner that discharging waste does not flow or drip onto the vehicle, and shall be capped when not in use.

ISD-1304.6 Equipment Condition: All equipment utilized in the pumping, storage, hauling and land application of septage shall be kept reasonably clean and in good working condition.

ISD-1304.7 Vehicle Identification: The name and address of the septage hauling business shall be displayed in eight inch (8") letters on both sides of any septage hauling vehicle.

SECTION ISD-1305.0 INSPECTIONS

ISD-1305.1 Land Application Sites: The Health Officer shall inspect any site utilized for the land application of septage for compliance with this Ordinance not less often than two times per year.

ISD-1305.2 Vehicles and Equipment: The Health Officer shall inspect any vehicle utilized for the pumping and hauling of septage for compliance with this Ordinance not less often than once per year.

ISD-1305.3 Enforcement: The Health Officer may issue notices and orders requiring action as may be necessary to assure compliance with this section.

SECTION ISD-1306.0 REPORTING

ISD-1306.1 Reporting Requirements: On a quarterly basis, licensed pumpers land applying septage must report the following information:

A) Volume of septage land applied each month during

the quarter.

B) Acreage treated each month during the quarter.

C) Site map showing area of application for each month during the quarter.

D) Signature.

SECTION ISD-1307.0 OTHER REQUIREMENTS

ISD-1307.1 State and Federal Regulations: The requirements established by this Chapter shall in no way preclude compliance with any applicable state or federal regulation.

ISD-1307.2 Conflict: Whenever the provisions of this chapter conflict with any applicable ordinance, regulation or rule, the most stringent requirement shall be applied.

SECTION ISD-1308.0 ADMINISTRATION

ISD-1308.1 Administrative Procedures and Fees: Administrative procedure and fees relative to this Chapter shall be in accordance with Chapter 16.

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CHAPTER 14 - MAINTENANCE

SECTION ISD-1401.0 GENERAL

ISD-1401.1 Agreement: The Health Officer shall require that the owner of record of an individual sewage disposal system initiate and keep in force an agreement for inspection and maintenance of the individual sewage disposal system in accordance with this section, and that the owner take action to repair, replace, modify, or maintain an individual sewage disposal system when necessary to ensure its proper operation.

SECTION ISD-1402.0 AEROBIC UNIT

ISD-1402.1 Agreement: The owner of record of any individual sewage disposal system which employs an aerobic unit for pretreatment of wastewater shall initiate and keep in force an agreement for inspection and maintenance of the aerobic unit with an authorized representative of the manufacturer.

ISD-1402.2 Inspections: The agreement shall provide for inspections of the aerobic unit a minimum of two (2) times per year, and shall provide for the repair, replacement, adjustment or modification of the aerobic unit and for additional inspections as are necessary to ensure the proper operation of the unit.

SECTION ISD-1403.0 SURFACE DISCHARGE

ISD-1403.1 Agreement: The owner of record of any system which is approved pursuant to Section ISD-804.3 to discharge effluent to the surface shall initiate and keep in force an agreement for inspection and maintenance of the system as required in this Section:

ISD-1403.1.1 Aerobic Unit: Any surface discharging system which employs an aerobic unit shall be maintained in accordance with Section ISD-1402 and further as specified in this Section.

ISD-1403.1.2 System Inspection: Any surface discharging system which does not employ an aerobic unit shall be covered by an agreement with a licensed individual sewage disposal system contractor which shall provide for inspection of the system a minimum of two (2) times per year, and shall provide for the repairs, replacement, adjustment or modification to the system as is necessary to ensure proper operation.

ISD-1403.1.3 Effluent Discharge: Any surface discharging system shall have, as a provision of the required maintenance agreement, its effluent discharge sampled a minimum of two (2) times per year. Samples shall be analyzed in accordance with "Standard Methods for the Examination of Water and Wastewater" for compliance to the following standards:

A) BOD_5 less than 30 mg/l.

B) Total Suspended Solids less than 30 mg/l.

C) Fecal Coliform less than 400 organism/100 ml.

D) No detectable odor or floating debris.

E) Chlorine residual

SECTION ISD-1404.0 HOLDING TANKS

ISD-1404.1 Agreement: The owner of record of any holding tank which is approved shall initiate and keep in force an agreement for inspection and maintenance of the holding tank with a licensed individual sewage disposal system pumper. The agreement shall provide for the continuous pumping of wastewater from the holding tank as is necessary, and for the repair, replacement, adjustment or modification of the holding tank or associated appurtenances as is necessary to ensure the proper operation of the unit.

SECTION ISD-1405.0 CONTINGENCY SYSTEMS

ISD-1405.1 Agreement: The owner of record of any contingency system approved pursuant to Section ISD-803.1 shall initiate and keep in force an agreement for inspection and maintenance of the system with a licensed individual sewage disposal system contractor. The agreement shall provide for inspection of the system and the alternation of soil absorption systems a minimum of one (1) time per year, and shall provide for the repair, replacement, adjustment or modification of the system as is necessary to ensure proper operation.

SECTION ISD-1406.0 NONCONFORMING/EXPERIMENTAL SYSTEMS

ISD-1406.1 Agreement: The owner of record of any nonconforming or experimental system approved pursuant to Section ISD-505.0 or Section ISD-804.3, respectively, shall initiate and keep in force an agreement for the inspection and maintenance of the system as specifically determined by the Health Officer conditional to the approval.

SECTION ISD-1407.0 DISCLOSURE

ISD-1407.1 Agreement: Any requirement for a maintenance agreement, as specified by this Section or by an administrative variance/hearing process, shall be recorded with the Lake County Recorder of Deeds as a covenant agreement between the Lake County Health Department and the owner of record of the individual sewage disposal system.

SECTION ISD-1408.0 REPORTING

ISD-1408.1 Requirements: Maintenance activities conducted on individual sewage disposal systems subject to the requirements of this Section shall be reported as outlined in this Section.

ISD-1408.2 Maintenance or Sampling Activity: The owner of record of an individual sewage disposal system subject to the maintenance requirements specified in this section shall submit to the Lake County Health Department a report of all required maintenance or sampling activity established herein or by any other agreement conditional to the initial approval, the repair, or the use of the individual sewage disposal system.

ISD-1408.2.1 Reports: Reports shall be submitted in a timely fashion following the maintenance intervals established by this Chapter, excepting that reports relative to pumping holding tanks shall be submitted every six (6) months.

ISD-1408.3 Additional Reports: Contractors who provide maintenance to individual sewage disposal systems shall submit to the Lake County Health Department additional reports as follows:

ISD-1408.3.1 Maintenance Activity: A report of maintenance activity which includes the repair, replacement, modification, or adjustment of an individual sewage disposal system or component where necessary to ensure its proper operation.

ISD-1408.3.2 Malfunction: A report of an observed malfunction of an individual sewage disposal system contracted for maintenance where the malfunction allows effluent which is or may be inadequately treated to discharge to the ground surface or to a surface water.

ISD-1408.3.3 Contract Cancellation or Non-renewal: A report of a cancellation or failure to renew an established maintenance contract, or a refusal of an owner of an individual sewage disposal system to undertake necessary repair, replacement, modification, or adjustment to the system.

ISD-1408.3.4 Pumping Activity: A report of each pumping of a permanent or temporary holding tank.

ISD-1408.4 Reporting Requirements: Reports shall be submitted in a timely fashion, excepting that a report of a discharge of inadequately treated effluent to the ground surface or a surface water shall be reported within twenty-four (24) hours.

ISD-1408.4.1 Form Specifications: Any report submitted to the Lake County Health Department as required by this Section shall be in a form acceptable to the Department including, as a minimum, the name of the owner of record, a complete mailing address, a complete legal description, the Permanent Index Number (PIN) and the individual sewage disposal system permit number.

SECTION ISD-1409.0 PROCEDURES

ISD-1409.1 General: Administrative procedure and fees relative to this Section shall be in accordance with Chapter 16.

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CHAPTER 15 - ENFORCEMENT

SECTION ISD-1501.0 GENERAL

ISD-1501.1 Violations: Any person who violates any section or provision of this Ordinance, or any rule or regulation adopted by the Department, or who violates any determination or order of the Department under this Ordinance, shall be fined not more than $500. Each day that a violation exists shall constitute a separate offense. The Lake County State's Attorney or the Attorney General shall bring such action in the name of the County of Lake or the People of Illinois, or may in addition to other remedies provided in this Ordinance, bring action for an injunction to restrain such violation.

SECTION ISD-1502.0 NOTICE OF VIOLATION

ISD-1502.1 Requirements: Whenever the Health Officer determines that there are reasonable grounds to believe that there has been a violation of any provision of this Ordinance, the Department shall give notice of such alleged violation to the owner and/or the person to whom the permit was issued, as herein provided. Such notice shall:

A) Be in writing.
B) Include a statement of the reasons for the issuance of the notice.
C) Allow reasonable time as determined by the Health Officer for the performance of any act it requires.
D) Be served upon the owner, operator, or permit holder as the case may require; provided that such notice or order shall be deemed to have been properly served upon such owner, operator or permit holder when a copy thereof has been sent by certified or registered mail to his last known address as furnished to the Lake County Health Department; or, when he has been served with such notice by any other method authorized by the laws of the State or Illinois; and
E) Contain an outline of remedial action which is required to affect compliance with this Ordinance.

SECTION ISD-1503.0 EMERGENCIES

ISD-1503.1 General: Whenever an emergency exists which requires immediate action to protect the public safety or health, the Health Officer may, without any administrative procedure and without notice of hearing, seek an injunction to require that such action be taken as the court may deem necessary to meet the emergency. Notwithstanding any other provision of this Ordinance, such order shall be effective immediately.

SECTION ISD-1504.0 REVOCATION OF

APPROVAL

ISD-1504.1 Site Conditions: Whenever the condition of a site approved for an individual sewage disposal system has changed or any information considered in the approval of an individual sewage disposal system was omitted or found to be false or erroneous, the Health Officer may revoke the approval of that site and of any construction permit issued pursuant to the approval.

ISD-1504.2 Revocation Notice: Revocation of approval shall be in writing, posted at the site and mailed to the owner, licensed designer, and licensed contractor, as applicable, by certified or registered mail. The notice shall contain information as follows:

A) A statement that work on the individual sewage disposal system is prohibited.
B) An explanation of the reason for the revocation of approval.
C) An outline of action required toward the reinstatement of the approval, if determined.
D) An explanation of rights and procedures for an administrative hearing.

Unless the Health Officer receives a request for a hearing, the revocation of approval shall be considered as final.

SECTION ISD -1505.0 HEARINGS AND RIGHT TO APPEAL

ISD-1505.1 Hearing Request: Any person whose approval for an individual sewage disposal system is revoked may request a hearing, provided that the request is received in writing within ten (10) days from receipt of the notice of revocation.

ISD-1505.2 Scheduled Hearing: The Health Officer shall conduct a hearing when so requested within five days of his receipt of the request, unless otherwise agreed. The Health Officer shall give notice by regular mail and by telephone of the date, time, and place of hearing.

ISD-1505.3 Decision: The Health Officer shall consider all relevant matters pertaining to the revocation of approval, and shall make a ruling to sustain, modify, or rescind the revocation. A written report of the hearing decision shall be furnished within ten days of a hearing date.

SECTION ISD-1506.0 APPLICATION AFTER REVOCATION

ISD-1506.1 General: Whenever the revocation of the approval of an individual sewage disposal system is final, any future consideration for approval shall be in accordance with Chapter 5.

SECTION ISD-1507.0 SUSPENSION OF LICENSES

ISD-1507.1 Hearing: Whenever any person licensed in accordance with Chapter 12 violates any provision of this Ordinance, or provides information toward the evaluation of soil or site conditions or the installation of an individual sewage disposal system which is false or erroneous, the Health Officer may require the appearance of that person at a hearing.

ISD-1507.1.1 Written Notice: The Health Officer shall give written notice to the licensee by certified or registered mail stating as follows:

A) The alleged violation or incident of providing false or erroneous information.
B) An intent to consider revocation of the license.
C) The time, date, and place of the hearing, to be not less than ten (10) days after the date of the notice.

ISD-1507.1.2 Revocation/Restrictions: The Health Officer may, with cause, suspend or revoke the license of any person or entity.

ISD-1507.1.3 Failure to Appear: The failure of a licensee to appear at a hearing for which due notice was given shall constitute a waiver of the right to a hearing.

ISD-1507.1.4 Notification of Findings: The Health Officer shall notify a licensee within ten (10) days of a hearing of the findings.

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CHAPTER 16
PROCEDURES & FEES

SECTION ISD-1601.0 GENERAL

ISD-1601.1 General: The Health Officer shall establish procedures and fees for the consideration of approval of proposed individual sewage disposal systems, subdivisions, and alteration, for the conducting of soil evaluations, for the consideration of variances, for administrative hearing, for construction permits, for licenses, and for special maintenance and operational permits as detailed in this Ordinance.

SECTION ISD-1602.0 INDIVIDUAL SEWAGE DISPOSAL SYSTEMS

ISD-1602.1 Submission of Plans: .Any plan submitted for approval for the construction or repair of an individual sewage disposal system shall be submitted as outlined in this Section.

ISD-1602.1.1 Application: An application for approval shall be completed.

ISD-1602.1.2 Fee: A fee in accordance with Article XIII of the Lake County Board of Health Ordinance shall be submitted.

ISD-1602.1.3 Required Information: Six copies of a plan prepared in accordance with Section ISD-902.0 or Section ISD-903.0 shall be submitted with any supplemental information as required by Section ISD-904.0 .

ISD-1602.2 Plan Review: Upon receipt of an application, plans properly submitted for approval, and receipt of the appropriate fee, the Health Officer shall review the application and plan for compliance with this Ordinance, and shall approve or refuse to approve the application within fifteen (15) working days.

ISD-1602.3 Notification of Non-Approval: The Health Officer shall notify any applicant whose application is not approved of the reason(s) preventing the approval and of any technical or administrative solution remaining.

ISD-1602.4 Plan Approval Period: A plan approved for the construction or repair of an individual sewage disposal system shall be valid for a period of twenty-four (24) months from the date of approval.

SECTION ISD-1603.0 ALTERATIONS AND ADDITIONS

ISD-1603.1 General: Any proposal to alter, expand, remodel, or change usage of any dwelling or establishment submitted for approval in accordance with Section ISD-504.0 shall be submitted as follows:

ISD-1603.2 Increased Water Usage/Square Footage Increase >50%: Proposals which may increase water usage, which increase the square footage of a dwelling or establishment by more than 50%, or which involve a change of use for a commercial establishment projecting an increase in water usage shall be submitted and processed in accordance with Section ISD-503.1 and Section ISD 902.0. .

ISD-1603.3 No Water Usage Increase/Square Footage Increase <50%: Proposals which may not increase water usage or do not increase the square footage of a dwelling by more than 50% shall be submitted as follows:

ISD-1603.3.1 Application: An application for approval shall be submitted.

ISD-1603.3.2 Fees: A fee in accordance with Article XIII of the Lake County Board of Health Ordinance shall be submitted.

ISD-1603.3.3 Required Information: Two copies of a plan depicting the existing site conditions, including the individual sewage disposal system, water well, existing floor plan and the proposed alteration or addition shall be submitted.

ISD-1603.4 Plan Review: Upon receipt of an application, plans properly submitted for approval, and receipt of the appropriate fee, the Health Officer shall review the application and plan for compliance with this Ordinance, and shall approve or refuse to approve the application within fifteen (15) working days.

ISD-1603.5 Notification of Non-Approval: The Health Officer shall notify any applicant whose application is not approved of the reason(s) preventing the approval and of any technical or administrative solution remaining.

ISD-1603.6 Plan Approval Period: A plan approved for the construction or repair of an individual sewage disposal system shall be valid for a period of twenty-four (24) months from the date of approval.

SECTION ISD-1604.0 NEW SUBDIVISIONS

ISD-1604.1 General: Any proposal for approval of a new subdivision in accordance with Section ISD-506.0 shall be submitted as follows:

ISD-1604.1.1 Application: An application for approval shall be completed.

ISD-1604.1.2 Fee: A fee in accordance with Article XIII of the Lake County Board of Health Ordinance shall be submitted.

ISD-1604.1.3 Plat: A preliminary plat in accordance with Section ISD-905.0 shall be submitted.

ISD-1604.1.4 Additional Fees: Additional fees in accordance with Article XIII of the Lake County Board of Health Ordinance may be required.

ISD-1604.2 Plan Review: The Health Officer shall review plans for new subdivisions within a reasonable time from the submittal, and shall correspond with the applicant as necessary to affect changes toward compliance with this Ordinance.

SECTION ISD-1605.0 SOIL EVALUATIONS

ISD-1605.1 General: Any proposal requesting a soil evaluation in accordance with Section ISD-601.3 shall be submitted as follows:

ISD-1605.1.1 Application: An application for a soil evaluation shall be completed.

ISD-1605.1.2 Fee: A fee in accordance with Article XIII of the Lake County Board of Health Ordinance shall be submitted.

ISD-1605.2 Appointment: The Health Officer shall schedule the date and time of the soil evaluation within a period not to exceed fifteen (15) working days. When weather conditions or frost greater than six (6) inches do not allow for accurate soil descriptions, the soil test shall be postponed to allow for acceptable conditions.

ISD-1605.3 Soil Report: A report of the soil evaluation shall be mailed to the applicant.

SECTION ISD-1606.0 VARIANCES

ISD-1606.1 General: Any request for a variance to any provision of this Ordinance shall be made in accordance with Section ISD-507.0.

ISD-1606.2 Review Process: The Health Officer shall review variance requests and shall approve or refuse to approve the request within thirty (30) days.

ISD-1606.3 Notification: The Health Officer shall notify in writing that person requesting a variance of the approval or denial of the request and shall state the reasons for that decision.

ISD-1606.4 Fee: A fee in accordance with Article XIII of the Lake County Board of Health Ordinance shall be submitted.

SECTION ISD-1607.0 HEARINGS

ISD-1607.1 General: Any request for a hearing shall be made in accordance with Section ISD-508.0 and Article VI of the Lake County Board of Health Ordinance.

ISD-1607.2 Fee: A fee in accordance with Article XIII of the Lake County Board of Health Ordinance shall be submitted.

SECTION ISD-1608.0 CONSTRUCTION PERMIT

ISD-1608.1 General: Any request for a permit to construct an individual sewage disposal system submitted in accordance with Section ISD-1002.1 shall be submitted as follows:

ISD-1608.2 Application: An application for a construction permit shall be completed and submitted.

ISD-1608.3 Fee: A fee in accordance with Article XIII of the Lake County Board of Health Ordinance shall be submitted.

ISD-1608.4 Revised Plan: A revision of the approved plan, if applicable, depicting any changes to the plan or site shall be submitted.

ISD-1608.5 Permit Review: Upon receipt of an application for a construction permit and the appropriate fee, the Health Officer shall review the application and construction plan for compliance with the Ordinance and for substantial agreement with the approved plan.

ISD-1608.6 Notification Process: The Health Officer shall issue or decline to issue a construction permit within five (5) working days, and shall notify any applicant whose permit is refused of the reason(s) preventing approval and of any technical or administrative solution remaining.

ISD-1608.7 Permit Period: The construction permit shall be valid for a period of ninety days from the date of approval. The Health Officer may, without additional fee, extend the construction permit for thirty (30) days provided that such extension shall apply only to the licensed septic contractor to whom the permit was originally issued.

SECTION ISD-1609.0 OTHER

ISD-1609.1 Procedural/Fee Requirements: The Health Officer may impose procedural requirements and/or charge fees in accordance with Article XIII of the Lake County Board of Health Ordinances for other permits and services including but not limited to, the following:

ISD-1609.1.1 Non-conforming systems: Review for approval of non-conforming systems pursuant to Section ISD-505.2.

ISD-1609.1.2 Examinations and License Fees: Examinations and license fees for soil classifiers, and for individual sewage disposal system designers, contractors and pumpers.

ISD-1609.1.3 Mortgage Surveys: Evaluation of individual sewage disposal systems and water wells for mortgage surveys.

ISD-1609.1.4 Site Drainage/Other Monitoring: Site visits to monitor site drainage or for other monitoring.

ISD-1609.1.5 Septage Disposal Sites: Site inspection of septage disposal sites.

ISD-1609.1.6 Contingency Systems: Permits to use contingency systems, approved pursuant to Chapter 8.

ISD-1609.1.7 Mandatory Maintenance Programs: Administration of mandatory maintenance programs.

ISD-1609.1.8 Soil Evaluation Review: Review of soil evaluations conducted by Lake County licensed soil classifiers.

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CHAPTER 17 - RELIEF FROM PERSONAL RESPONSIBILITY

SECTION ISD-1701.0 GENERAL

ISD-1701.1 Personal Liability: The Health Officer charged with the enforcement of this Ordinance, while acting for the jurisdiction, shall not thereby be liable personally, and is hereby relieved from all personal liability for any damage that may accrue to persons or property as a result of any act required or permitted in the discharge of official duties. Any suit instituted against any officer or employee because of an act performed by the Health Officer in the lawful discharge of duties and under the provisions of this Ordinance shall be defended by the legal representative of the jurisdiction until the final termination of the proceeding, except as may be otherwise required by statute. The Health Officer shall not be liable for costs in any action, suit, or proceedings that may be instituted in pursuance of the provisions of this Ordinance; any officer of the Lake County Health Department shall be free from liability for acts performed under any of its provisions or by reason of any act or omission in the performance of official duties in connection therewith, except as may be otherwise required by statute.

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CHAPTER 18 - INTERPRETATION AND CONFLICT

SECTION ISD-1801.0 GENERAL

ISD-1801.1 Minimum Requirements: The provisions of this Ordinance shall be held to be the minimum requirements for the promotion of public health, safety and general welfare. Whenever a provision of this Ordinance or any other applicable provisions of law, whether set forth in this Ordinance or any other applicable provisions of law imposes overlapping or contradictory regulations or contains restrictions covering similar subject matter, the provision which imposes higher standards or requirements for the promotion of public health and safety of the people of Lake County shall prevail.

SECTION ISD-1802.0 STATE AND LOCAL REQUIREMENTS

ISD-1802.1 Compliance: Compliance with this Ordinance does not release applicant from compliance with applicable State of Illinois or local ordinances or regulations governing individual sewage disposal systems.

SECTION 1SD-1803.0
EFFECTIVE DATE

ISD-1803.1 This ordinance shall be effective on and after the 1st day of April, 1997.

Adopted November 12, 1996.

APPENDIX A

The following materials are incorporated as a part of this Ordinance for reference purposes:

A) Illinois Private Sewage Disposal Licensing Act (225 ILCS 225/1 et seq.) and Illinois Private Sewage Disposal Code (Title 77 Illinois Administrative Code, Chapter I, Subchapter r, Part 905)

B) Wisconsin Mound Soil Absorption System Siting, Design, and Construction Manual, Small Scale Waste Management Project, University of Wisconsin-Madison, January, 1990

C) Wisconsin At Grade Soil Absorption System Siting, Design and Construction Manual Small Scale Waste Management Project, University of Wisconsin-Madison, January, 1990

D) Design and Installation of Low-Pressure Pipe Waste Treatment Systems, UNC Sea Grant College Publication UNC-56-82-03, May, 1982

All incorporated materials are available for inspection and copying at the offices of the Lake County Health Department, Environmental Health Services.

APPENDIX B

Table B.1 Soil Suitability for Individual Sewage Disposal Systems

Table B.2 Maximum Wastewater Loading Rates

Table B.1
Soil Suitability for Individual Sewage Disposal Systems

Soil Resource Group A **The following soils formed in loamy to sandy material overlying sandy or gravelly glacial outwash.**

SOIL SERIES	CLASSIFICATION	DEPTH TO LIMITING LAYER (IN)		MINIMUM ISD SYSTEM TYPE
		Standard	Class I Aerobic Pretreatment	
54 Plainfield	Sandy, mixed, mesic Typic Udipsamment	>42	>34	1
		36-42	28-34	2
		24-36	16-28	3
93 Rodman	Sandy-skeletal, mixed, mesic Typic Hapludoll	>42	>34	1
		36-42	28-34	2
323 Casco	Fine-loamy over sandy or sandy-skeletal, mixed, mesic Typic Hapludalf	>36	>28	2
		24-36	16-28	3
		16-24	-	5
325 Dresden	Fine-loamy over sandy or sandy-skeletal, mixed, mesic Typic Hapludalf	>36	>28	2
		24-36	16-28	3
		16-24	-	5
327 Fox	Fine-loamy over sandy or sandy-skeletal, mixed, mesic Typic Hapludalf	>36	>28	2
		24-36	16-28	3
		16-24	-	5
706 Boyer	Coarse-loamy,mixed, mesic Typic Hapludalf	>36	>28	2
		24-36	16-28	3
		16-24	-	5

Soil Resource Group B **The following soils formed in silty material overlying stratified glacial outwash.**

SOIL SERIES	CLASSIFICATION	DEPTH TO LIMITING LAYER (IN)		MINIMUM ISD SYSTEM TYPE
		Standard	Class I Aerobic Pretreatment	
365 Aptakisic	Fine-silty, mixed, mesic Aeric Epiaqualf	>24	>16	3
		12-24	12-16	5
		<12	<12	*
442 Mundelein	Fine-silty, mixed, mesic Aquic Argiudoll	-	16-24	3
		12-24	12-16	5
443 Barrington	Fine-silty,mixed, mesic Typic Argiudoll	>42	>34	1
		36-42	28-34	2
		24-36	16-28	3
		16-24	-	5
696 Zurich	Fine-silty,mixed, mesic Typic Hapludalf	>42	>34	1
		36-42	28-34	2
		24-36	16-28	3
		16-24	-	5
697 Wauconda	Fine-silty, mixed, mesic Udollic Epiaqualf	-	16-24	3
		12-24	12-16	5
		<12	<12	*
698 Grays	Fine-silty, mixed, mesic Mollic Hapludalf	>42	>34	1
		36-42	28-34	2
		24-36	16-28	3
		16-24	-	5

* See Section ISD-802.1

Table B.1
Soil Suitability for Individual Sewage Disposal Systems

Soil Resource Group C The following soils formed in loam glacial till.

SOIL SERIES	CLASSIFICATION	DEPTH TO LIMITING LAYER (IN)		MINIMUM ISD SYSTEM TYPE
		Standard	Class I Aerobic Pretreatment	
25 Hennepin	Fine-loamy, mixed, mesic Typic Eutrochrept	>36	>28	2
		24-36	16-28	3
27 Miami	Fine-loamy, mixed, mesic Typic Hapludalf	>36	>28	2
		24-36	16-28	3
		16-24	-	5
57 Montmorenci	Fine-loamy, mixed, mesic Aquollic Hapludalf	>24	>16	3
		12-24	12-16	5
490 Odell	Fine-loamy, mixed, mesic Aquic Argiudoll	12-24	12-16	5
		<12	<12	*
495 Corwin	Fine-loamy, mixed, mesic Typic Argiudoll	>36	>28	2
		24-36	16-28	3
		16-24	-	5

Soil Resource Group D The following soils formed in silty clay loam glacial till.

SOIL SERIES	CLASSIFICATION	DEPTH TO LIMITING LAYER (IN)		MINIMUM ISD SYSTEM TYPE
		Standard	Class I Aerobic Pretreatment	
146 Elliott	Fine, illitic, mesic Aquic Argiudoll	>24	>16	4
		12-24	12-16	5
		<12	<12	*
194 Morley	Fine, illitic, mesic Typic Hapludalf	>24	>16	4
		12-24	12-16	5
223 Varna	Fine, illitic, mesic Typic Argiudoll	>24	>16	4
		12-24	12-16	5
298 Beecher	Fine, illitic, mesic Udollic Epiaqualf	>12	>12	5
		<12	<12	*
531 Markham	Fine, illitic, mesic Mollic Hapludalf	>24	>16	4
		16-24	-	5

Soil Resource Group E The following soils formed in silty clay loam lacustrine sediments.

SOIL SERIES	CLASSIFICATION	DEPTH TO LIMITING LAYER (IN)		MINIMUM ISD SYSTEM TYPE
		Standard	Class I Aerobic Pretreatment	
189 Martinton	Fine, illitic, mesic Aquic Argiudoll	12-24	12-16	5
192 Del Rey	Fine, illitic, mesic Aeric Epiaqualf	>12	>12	5
		<12	<12	*
370 Saylesville	Fine, illitic, mesic Typic Hapludalf	>24	>16	4
		12-24	12-16	5

* See Section ISD-802.1

Table B.1
Soil Suitability for Individual Sewage Disposal Systems

Soil Resource Group F The following soils formed in silty clay or clay glacial till.

SOIL SERIES	CLASSIFICATION	DEPTH TO LIMITING LAYER (IN)		MINIMUM ISD SYSTEM TYPE
		Standard	Class I Aerobic Pretreatment	
228 Nappanee	Fine, illitic, mesic Aeric epiaqualf	>12	>12	5
		<12	<12	*
320 Frankfort	Fine, illitic, mesic Udollic Epiaqualf	>12	>12	5
		<12	<12	*

Soil Resource Group G The following soils have a seasonal high water table at less than 12 inches.

SOIL SERIES	CLASSIFICATION	DEPTH TO LIMITING LAYER (IN)		MINIMUM ISD SYSTEM TYPE
		Standard	Class I Aerobic Pretreatment	
67 Harpster	Fine-silty, mixed, mesic Typic Calciaquoll	<12	<12	*
97 Houghton Peat	Euic, mesic Typic Medisaprist	<12	<12	*
103 Houghton Muck	Euic, mesic Typic Medisaprist	<12	<12	*
107 Sawmill	Fine-silty, mixed, mesic Cumulic Haplaquoll	<12	<12	*
153 Pella	Fine-silty, mixed, mesic Typic Haplaquoll	<12	<12	*
232 Ashkum	Fine, mixed, mesic Typic Haplaquoll	<12	<12	*
330 Peotone	Fine, montmonillinitic, mesic Cumulic Haplaquoll	<12	<12	*
367 Beach Sand	------	<12	<12	*
465 Montgomery	Fine, illitic, mesic Typic Haplaquoll	<12	<12	*
513 Granby	Sandy, mixed, mesic Typic Haplaquoll	<12	<12	*
GP Gravel Pit	------	NA	NA	*
MA Marsh	------	<12	<12	*

* See Section ISD-802.1

Table B.2
Maximum Wastewater Loading Rates

ISD System Type 1, 2, & 3 uses the most limiting soil condition in the upper 24".
ISD System Type 4 & 5 uses the most limiting soil condition in the upper 12".

	Till/ Lacustrine	Outwash
Gravelly coarse sand	0.00	0.00
Moderate or strong platy structure	0.00	0.00
Sandy clay loam, silty clay loam, or finer, and weak platy structure	0.00	0.00
Moist soil consistence stronger than firm or any cemented class	0.00	0.00
Sandy clay, clay, or silty clay texture and weak or massive structure	0.00	0.00
Sandy clay loam, clay loam, silty clay loam, silt, loam or silt loam texture and massive structure	0.00	0.00
Sandy clay, clay, or silty clay texture of low clay content and moderate or strong structure	0.20	0.20
Sandy clay loam, clay loam, silty clay loam or silt loam texture with weak structure	0.20	0.30
Clay loam, silty clay loam, or silt loam texture and moderate or strong structure	0.40	0.50
Sandy loam or loam texture and weak structure	0.40	0.50
Sandy clay loam, sandy loam, or loam texture and moderate or strong structure	0.50	0.70
Fine sand, very fine sand, loamy fine sand, or loamy very fine sand	0.60	0.70
Loamy sand, sand, or coarse sand texture	0.80	0.80

Whenever a Class 1 aerobic unit is proposed, the wastewater loading rate may be increased by a factor of 20% as follows:

.20 ---> .24
.30 ---> .36
.40 ---> .48
.50 ---> .60
.60 ---> .72
.70 ---> .84
.80 ---> .96

Appendix C

Table C.1 Design Daily Wastewater Flow

Table C.2 Septic Tank and Aerobic Unit Sizing Standards

Table C.3 Lift Station Sizing Standards

Table C.1
Design Daily Wastewater Flow

Type of Establishment	Gallons Per Day
Apartment buildings (per bedroom - includes automatic clothes washer)	200
Assembly halls (per person - no kitchen)	2
Bars and cocktail lounges (per patron space)	9
Beauty salons (per station - includes customers)	140
Bowling centers (per lane)	125
Bowling centers with bar (per lane)	225
Campground sanitary dump stations (per camp space)	20
Camp, day use only - no meals served (per person)	25
Camps, day and night (per space)	50
Churches - no kitchen (per person)	3
Churches - with kitchen (per person)	7.5
Drive-in restaurants - all paper service (per car space)	15
Drive-in restaurants - all paper service, inside seating (per seat)	15
Employees - in all buildings, per employee	15
Hotels or motels and tourist rooming houses (per room - 2 persons per room)	100
Medical office buildings, clinics and dental offices	
Doctors, nurses, medical staff (per person)	75
Office personnel (per person)	15
Patients (per person)	10
Nursing and rest homes - without laundry (per bed space)	125
Outdoor sports facilities (toilet waste only - per person)	5
Parks, toilet wastes (per person - 75 person per acre)	5
Restaurants - kitchen and toilet wastes (per seating space)	35
Restaurants (24 hour) - kitchen and toilet wastes (per seating space)	60
Retail stores - customers	1.5
Schools (per classroom - 25 pupils per classroom)	450
Schools with meals served (per classroom - 25 pupils per classroom)	600
Schools with meals served and showers provided (per classroom)	750
Swimming pool bathhouses (per person)	10

Residential Sizing Criteria

# of Bedrooms	Total Gallons
2	400
3	500
4	600
5	700

100 gallons/day for each additional bedroom

Table C.2
Septic Tank and Aerobic Unit Sizing Standards

Residential

Number of Bedrooms	Septic Tank(s) (Gallons)	Aerobic Units (Gallons per day)
2 or fewer	1250	400
3	1500	500
4	2000	600
5	2200	750
6	2600	900
7	3000	1050

Other than Residential

Projected Wastewater Concentrations	Septic Tank(s) (Gallons)	Aerobic Units (Gallons per day)
$\leq$ 300 ppm BOD_5	1.5 x design flow	1.0 x design flow
$\geq$ 300 ppm BOD_5	Section ISD 505.1 - non-conforming	

Table C.3

Lift Station Sizing Standards

Number of Bedrooms	Minimum Liquid Capacity (gallons)
2 or less	750
3-4	1000
5 or more	1500

Appendix D

Location of Components of an Individual Sewage Disposal System

Distance (in Feet) From	Component Part of System		
	Building Sewer or Force Main	Septic Tank, Aerobic Unit, or Lift Station	Soil Absorption Trench/Bed
Wells or Suction Lines	50	50	75
Water Supply Line Under Pressure and InGround Swimming Pool	10	10	25
Surface Waters, Retention Pond, Wetland or Other Body of Water	25	50	50
Detention Pond	10	10	25
Dwelling or Building with Foundation	10	10	20
Driveway, Property Line or Building without Foundation	10	10	10
Permanent Fencing, Decks, Above-ground Pools, etc.	5	5	10
Tile Drains	10	10	15
Drainage Easement, Open Ditches, Road Cuts	10	10	10
Utility Easement	5	5	5

APPENDIX E

Table E.1	Perforation Discharge Rates
Table E.2	Friction Loss in PVC Pipe
Illustration E.3	Illustration of Mound on a Sloping Site
Illustration E.4	Illustration of Mound on a Level Site
Illustration E.5	Low Pressure Pipe Distribution System
Illustration E.6	Illustration of At-Grade on a Sloping Site
Illustration E.7	System Types

Table E.1

Perforation Discharge Rates in Gallons per Minute Versus Perforation Diameter and In-Line Pressure

In-Line Pressure (ft)	Perforation Diameter (in)					
	3/16"	1/4"	5/16"	3/8"	7/16"	1/2"
	gpm					
1.0'	0.42	0.74	1.15	1.66	2.26	2.95
1.5'	0.50	0.90	1.41	2.03	2.76	3.61
2.0'	0.59	1.04	1.63	2.34	3.19	4.17
2.5'	0.66	1.17	1.82	2.62	3.57	4.66
3.0'	0.72	1.28	1.99	2.87	3.91	5.10
3.5'	0.77	1.38	2.15	3.10	4.22	5.51
4.0'	0.83	1.47	2.30	3.31	4.51	5.89
4.5'	0.89	1.56	2.44	3.52	4.79	6.25
5.0'	0.94	1.65	2.57	3.71	5.04	6.59

Table E.2

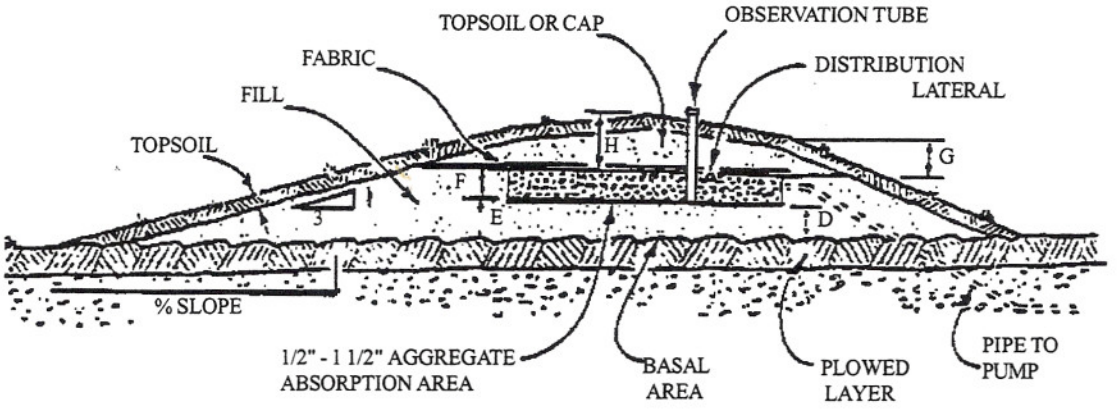
Friction Loss in Schedule 40 Plastic Pipe

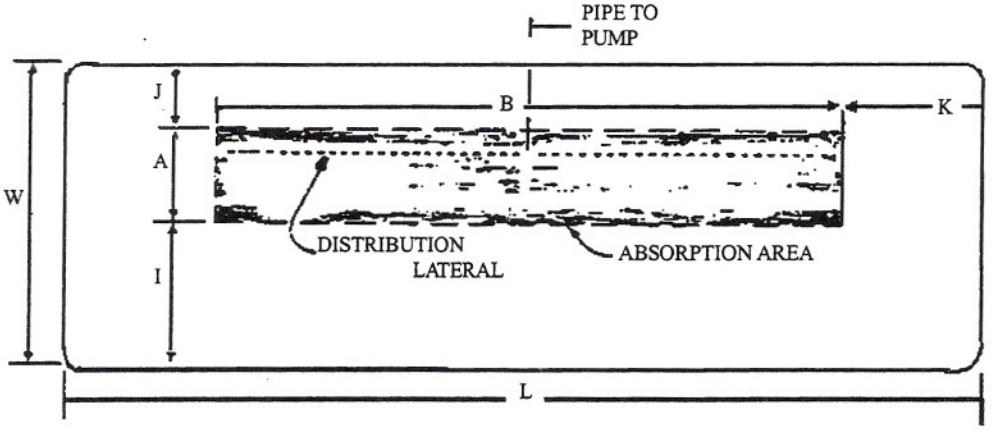
(Feet of Head Loss per 100')

Flow (gpm)	Pipe diameter (inch)				
	1 1/4	1 1/2	2	3	4
10	1.46	0.70	0.21		
11	1.77	0.84	0.25		
12	2.09	1.01	0.30		
13	2.42	1.17	0.35		
14	2.74	1.33	0.39		
15	3.06	1.45	0.44	0.07	
16	3.49	1.65	0.50	0.08	
17	3.93	1.86	0.56	0.09	
18	4.37	2.07	0.62	0.10	
19	4.81	2.28	0.68	0.11	
20	5.23	2.46	0.74	0.12	
25		3.75	1.10	0.16	
30		5.22	1.54	0.23	
35			2.05	0.30	0.07
40			2.62	0.39	0.09
45	Velocities in this		3.27	0.48	0.12
50	area become too		3.98	0.58	0.16
60	great for the various			0.81	0.21
70	flow rates and pipe			1.08	0.28
80	diameter.			1.38	0.37
90				1.73	0.46
100				2.09	0.55
125					0.85
150					1.17
175					1.56

Illustration E.3

Cross Section and Plan View of a Mound System on a Sloping Site

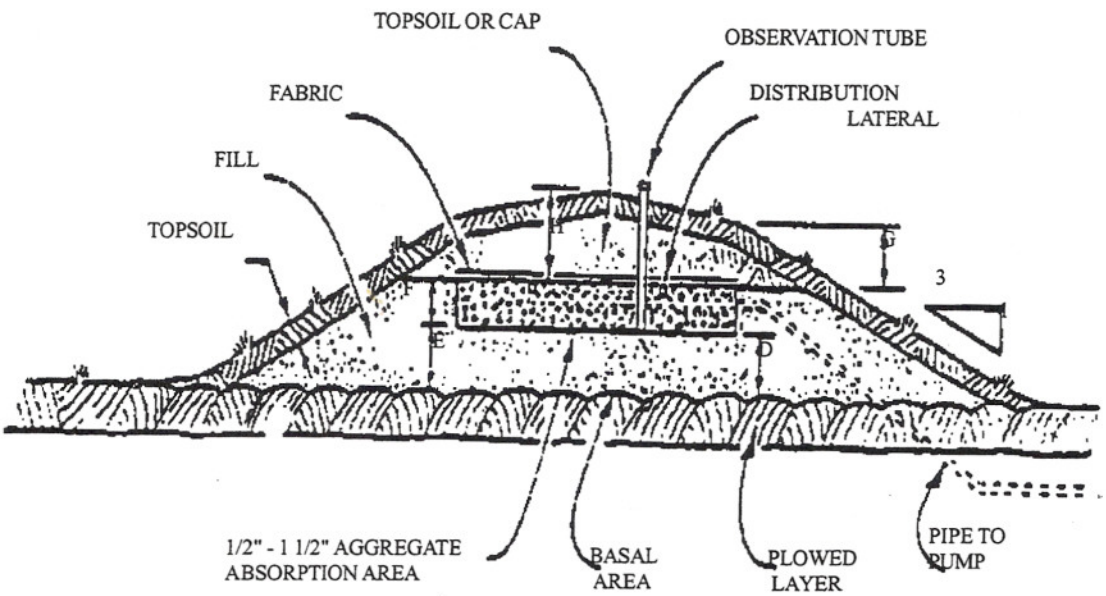


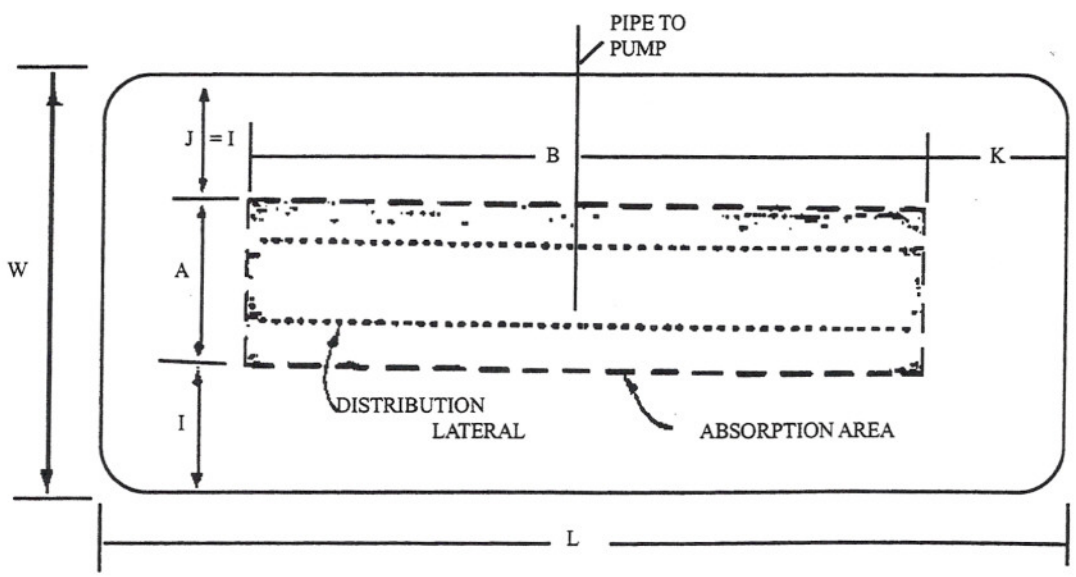


BASAL AREA = (B) x (A + I)

Illustration E.4

Cross Section and Plan View of a Mound System on a Level Site

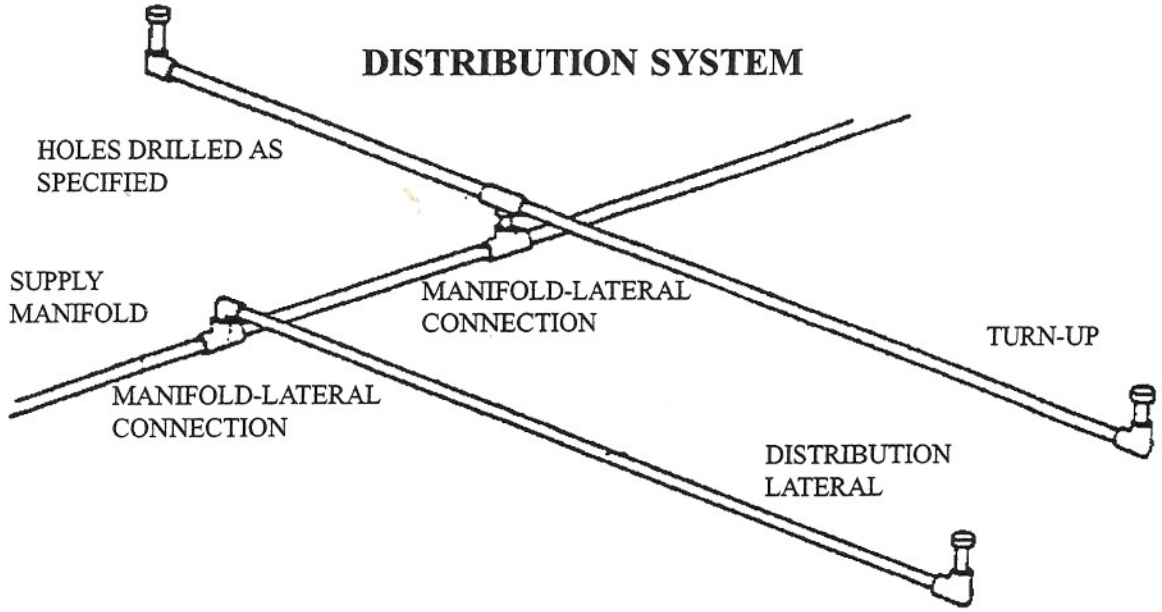


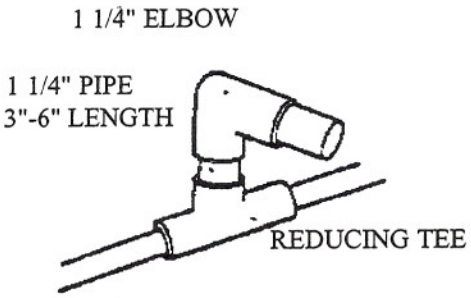


BASAL AREA = (B) x (A + I + J)

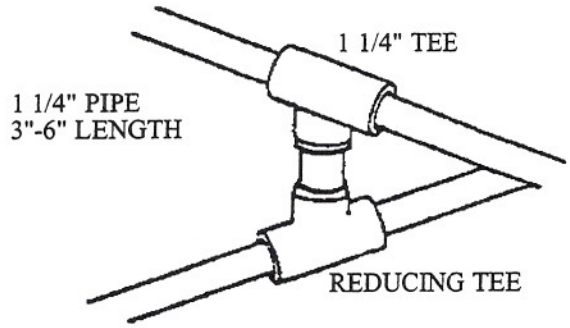
Illustration E.5

Example Details of Low Pressure Pipe Distribution System

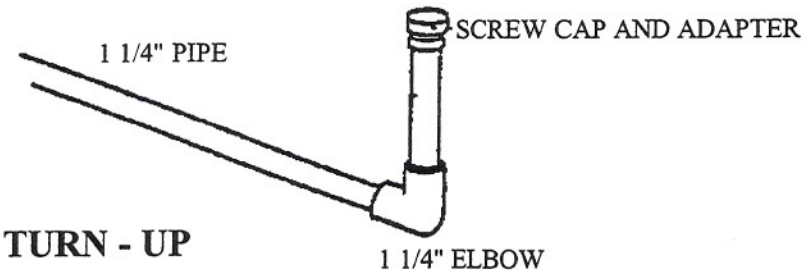




SIDE MANIFOLD - LATERAL CONNECTION



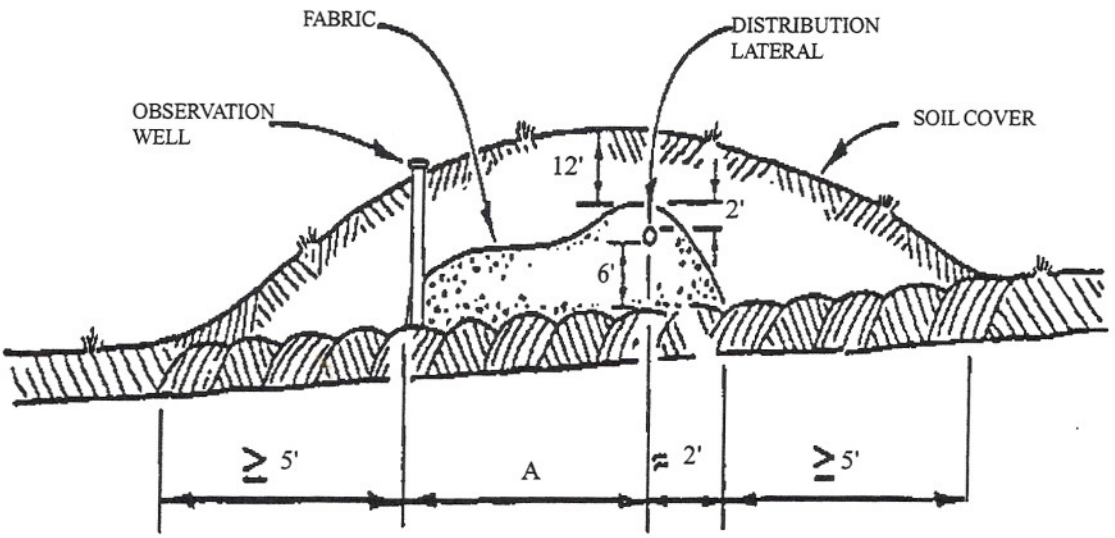
CENER MANIFOLD - LATERAL CONNECTION



TURN - UP

Illustration E.6

Cross Section and Plan View of an At-Grade System on a Sloping Site



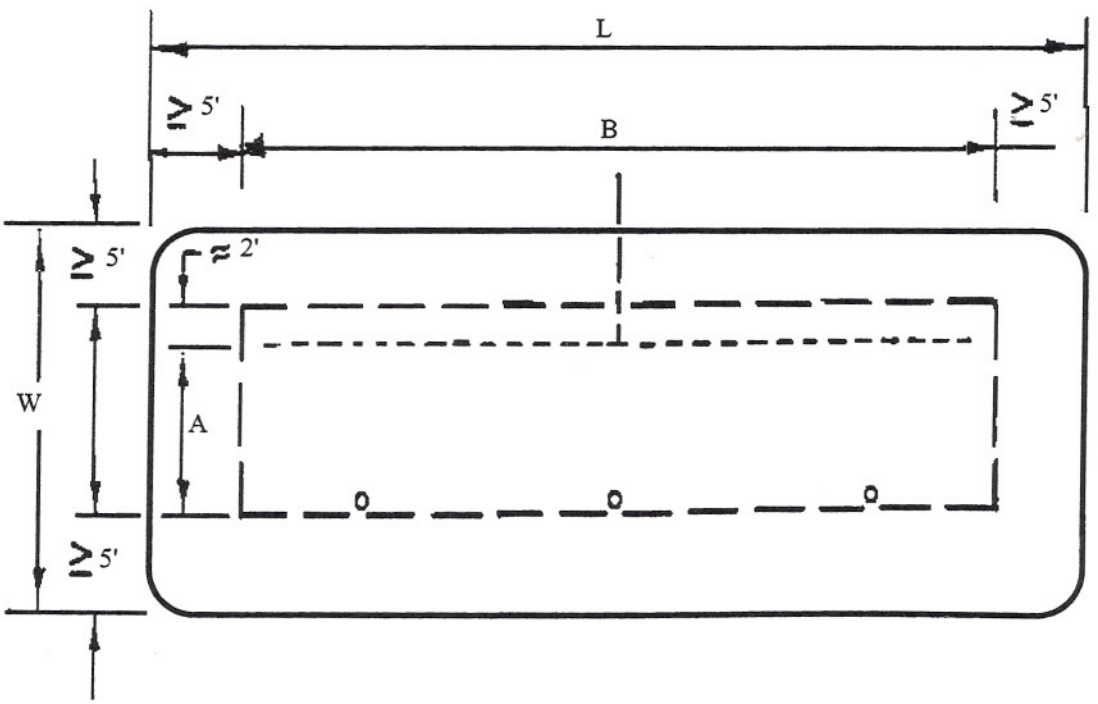


Illustration E.7
System Types